

DESIGNING FOR TV

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DESIGNING FOR TV

THE ARTS AND CRAFTS IN TELEVISION PRODUCTION

Designing for TV

THE ARTS AND CRAFTS IN TELEVISION PRODUCTION

BY ROBERT J. WADE

National Broadcasting Company, Inc.

VISUAL ARTS BOOKS



PELLEGRINI AND CUDAHY • NEW YORK

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CONTENTS

PREFACE	11
FOREWORD by Sylvester L. Weaver, Jr.	15
1. The Artist in a New Medium	19
Artists in Television — Of the Future — Television Cities.	
2. Planning a Program: THE ARTIST AND THE PRODUCER	27
The Production Meeting — Program #617: Preparation.	
3. Art Direction: THE FIELD OF THE SPECIALIST	40
The Art Director: His Job and Background — The Gray Scale in Television — Professional Training — Organization and Personnel — Research Facilities — Small Station Operations — Clearances — The Unions.	
4. Set Design: THE ILLUSION OF STAGECRAFT	66
Stage Design — Design in Films — Television Scenic Design — The Processes of Scenic Design — Functions of the Designer — Set Dressings.	
5. The Mechanics of Designing: THE ARTIST AND HIS TOOLS	92
Technical Units of Studio Equipment — The Mechanics of Illusion — Special Scenic Effects — Film Sequences in Studio Programs — Kinescope Recordings.	

6. Scenic Painting: TV CAMOUFLAGE	129
Scenic Painting—Techniques of Scene Painting—Methods of Scene Painting—Pictorial Scenic Work—Decorative Painting—Texture-Producing Techniques—The Scenic Artist.	
7. The Graphic Arts: ILLUSTRATION AND TYPOGRAPHY	143
Titles—Titling Devices—Projecting Images from Master Control—Projecting Images from the Live Studio—Processes and Media—Photography—Printing—Fakery and Fakes—Animated Films—The Graphics Department—The Head Title Artist—Staff Artists and Craftsmen—The Art Room and Its Equipment.	
8. Commercials: THE ARTIST AND THE ADVERTISER	174
Commercial Types (Live or Film)—Check List on Commercials.	
9. Costume and Make-Up: THE ARTIST AND THE ACTOR	184
Costume Design—Procurement—TV Costume Chart—Preparation of the Costume Designer—The Stylist—Unions—Make-up—TV Make-up Chart—Preparation of the Make-up Artist.	
10. Accounting and Costs: THE ARTIST LOOKS AT BOOKKEEPING	198
Cost Accounting—Billing and Accounting—Art Department Billing—Estimating—Departmental Budgeting.	
GLOSSARY	207
INDEX	211

PREFACE

THREE are many good books about television—hundreds for the engineer, scores for the producer and director, dozens for the production supervisor and special effects expert, and not a few for the layman. *Designing for TV* has been compiled for the artist and art director. It was written after many conferences with television network producers and writers, art directors, regional station operators, advertising agency production men, artists, college presidents, art school heads, electronic engineers and others, whose questions about the art and design functions in television production forecast in their quantity and catholicity a need for a comprehensive reference work. It contains material of value to the student, the trained professional who wishes to investigate a new medium, and the commercial illustrator, cartoonist or draftsman who must acquire knowledge of television techniques in order to broaden his field and to serve a wider range of clients. The set designer, the producer, the production manager, the executive and the station operator will also find this information useful as a guide to procedure.

Designing for TV is not a textbook on "television art" because there can be no such thing. The various arts and crafts of drawing, painting, and scenic design are not indigenous to production but rather are applied to television staging, and no one textbook could encompass all the fundamentals involved in all the arts and crafts so employed. Because there are many excellent manuals on stage carpentry, property making, motion picture special effects and other allied subjects, this book omits discussion of these production facilities and concentrates on a new field: the application of the scenic and graphic arts and crafts to the requirements of television.

This work is not so much concerned with aesthetics or prognostications for the future as it is with the realistic and economical solving of today's and tomorrow's production problems in commercial television. Hence, the purpose of the book is quite frankly narrow and parochial. If the indicated methods and processes are helpful in staging a low-budgeted half-hour comedy program or in refurbishing a tired soap commercial, *Designing for TV* will have

achieved its intent. To this end, only basic material and tested techniques have been included. In designing backgrounds for "live" or filmed television programs, it is the responsibility of the artist to improve and refine these techniques, and in subsequent application to discover and perfect means of synthesizing lifeless scenery, costumes and graphics into a sentient and unified whole.

Today many persons, usually non-artists, are seeking easy and royal roads to the understanding of the production crafts by trying to learn pseudo-scientific rules and regulations that are applicable in all cases. In a book of this kind it would be simple indeed to satisfy such readers by including ex cathedra statements: "Use blue-green for a good #4 gray for living-room settings," or "Underwater scenes are always established by shooting through a tank of goldfish," or "Cigarette commercials are most effective lettered in bold condensed Vogue"; but the information would be restricted and untrue. Gray-scale response charts, for example, are of great value to the artist in television, but mainly because they tell him what to avoid; his training, perception and creative sense must tell him what to do. Once a creative artist starts to function by rote his work will hardly compare with that of those minor geniuses who achieve critical acclaim in presentational media by breaking the rules regularly.

Once convinced that a book on TV incapsulation, graphics and processes of execution would be of value to the industry, my thoughts turned to ways and means of finding time to transfer a considerable amount of information, facts and opinions to paper and at the same time to continue my daily duties at the National Broadcasting Company. Here, because of the tremendous impact of television, everyone of executive level, especially in the production departments, was overburdened with the problems

of staging and programming. Although a recent promotion to a developmental post eliminated 7-day weeks and 9-hour days, a goodly portion of these pages was perforce written on a commuter train plying between Larchmont and Grand Central Station. It is therefore in order that among these acknowledgments I must first thank those anonymous New Haven engineers for their co-operation in avoiding jerky stops and unexpected accelerations which so interrupt one's train of thought. However, I found that it was impossible to do the drawings en route without spattering fellow passengers—some of them network and advertising agency vice-presidents—with India ink; so much to my regret I was forced during the past few months to retire from the amenities of domestic felicity on Sundays and at least three nights a week, and closet myself with pen, ink and T-square. Thus have the patience and understanding of my wife and Bobby Wade, Jr. made it possible for this book to be assembled.

So many production experts and craftsmen have assisted in the preparation of *Designing for TV* that I find it difficult properly to acknowledge all the help and guidance that have been so kindly provided by artists and producers in the television and advertising industries. In particular, I should like to thank the following:

Miss Valerie Bettis and Vaughn Taylor for permission to reproduce special make-up photographs; Richard E. Smith of NBC-TV and Elwell of ABC-TV for make-up and costume material; John A. Rose, Supervisor of NBC Graphics, Georg Olden, Director of CBS Graphics, and Arthur Rankin, Jr., ABC Graphic Arts Director, for providing exemplars of titling and commercial artwork;

Robert F. Brunton, General Manager of the P. J. Rotondo Construction Company, for invaluable assistance and advice on technical matters;

Larry Berger of Batten, Barton, Durstine and Osborn, Inc., Pierson Mapes and Ira Skutch of the Hutchins Agency; John Schneider and David Hale Halpern of the Owen & Chappell Agency; Michael Levin of Ted Bates, Inc.; and Melvin L. Gold of the National Screen Service, for aid in securing clearances for the use of client-owned material;

Paul N. Peroff (and his outlet, Television Screen Productions, Inc.) and Hal Berry, Boston, for the loan of animated film negatives; Allan Kalmus of the NBC Press Department and the Trans-Lux Projection Co. for permission to reproduce operational photographs; Kenneth A. Cullen of the National Card, Mat & Board Co., Chicago, for furnishing special TV art materials;

Douglas Sterling Paddock for his photographs of methods and processes, especially those illustrating rear projection; three network executives, James H. McNaughton, ABC National Art Director, Norman Grant, NBC Art Director, and Jackson Green, CBS Director of Design, who have contributed typical sketches and maquettes;

Those producers and advertising agency representatives who have graciously allowed me to "borrow back" many of my original sketches and designs for use as illustrations;

My secretary, Miss Joyce M. Higbee, whose efficiency and interest have greatly facilitated preparation;

And last, but perhaps most important of all, the many artists and craftsmen in Local

829 (United Scenic Artists) and Local 1 (I.A.T.S.E.) who, in a sense, have collaborated in writing and illustrating *Designing for TV*.

The scope of this book cannot be extended to include other than superficial material on camera lenses, the electronic system or studio operating problems—all important to the artist when he is discussing staging matters with engineers, technicians and stage crewmen. The reader will find basic and informative technical and non-technical works listed in the bibliographical sections at the end of each chapter.

As in the theater and movies, lighting makes or breaks the effects and illusions that producer and set designer create. Because of the unprecedented expansion of programming, with consequent changes in techniques and developments in physical equipment, very little material on television lighting is available in print. It is therefore suggested that as an introduction the reader refer to texts on still photography lighting which at least contain fundamentals. Lighting is basic to television production. As a technique and an "art" it is definitely in a period of infancy.

It is hoped that the works cited will be of interest and value to the art director, designer and general artist who wish to delve further into the intricacies of television production techniques.

ROBERT J. WADE
Radio City

FOREWORD

HERE IS A BOOK on art and design in television staging written expressly for the graphic artist, craftsman or production designer—all of whom, states the author, have a “tremendous equity in the present and future of TV broadcasting” as professional and creative contributors to programming.

I think he is right.

And it is interesting to observe why.

In the entertainment world most inventions and technical advances—silent and sound films, radio and television—follow a developmental cycle that includes discovery, experimentation, public interest and, all things being equal, commercial and industrial acceptance.

The success of both radio and television as transmitters of the arts and the ability of both media to employ performers, musicians, actors and artists have effectually silenced those myopic critics who foresaw in the future of electronic communications and broadcasting the destruction of the theater and its crafts, the closing of the music halls, decreased employment and the degradation of creative talent to a canned, mechanical mediocrity.

Today, in the television industry, hun-

dreds of artists: actors, art directors, scenic designers, draftsmen and visualizers express their individual talents before audiences so vast that an average-sized Broadway theater would need to present the same attraction—eight performances a week—for nearly a quarter-of-a-century to reach an equal number of home viewers watching a single program. Because of the predominantly visual nature of television broadcasting, a new field with strong and far-reaching potential has emerged for the graphic artist and craftsman—a field in which both can join with the musician and actor to create in millions of living rooms the imagery and glamour of the theater, the opera and other “lively arts.”

In this great new industry with its coast-to-coast network facilities and its constantly expanding plans for future development, the artist, trained to interpret the intent of script-writer and producer, can look forward to a creative and vocational future packed with challenges and opportunities. And he will participate in the planning of an exciting and colorful enterprise whose cultural influence can be world-wide.

In *Designing for TV*, Bob Wade, Executive Coordinator of Production Develop-

ment at NBC-TV, who some years ago saw in television production a career and a highly specialized profession in the designing of settings, illustrations, costumes and craftsmanship, describes the multifarious activities of such production. The collateral notes on practical, economical methods and techniques will be of immediate help to the sta-

tion operator and of lasting value to the professional artist or student. The author, whose jobs in the theater and television have ranged from laborer to professor and from artist to executive, has drawn heavily on his own experience and on that of other professional production people in assembling this definitive reference work.

SYLVESTER L. WEAVER, JR.,
Vice President,
The National Broadcasting Co., Inc.

Radio City,
1952

DESIGNING FOR TV

THE ARTS AND CRAFTS IN TELEVISION PRODUCTION

1.

THE ARTIST IN A NEW MEDIUM

TELEVISION transmits pictures. In form, these pictures are images broadcast from a point of origination miraculously through the ether to millions upon millions of viewers. Soon, so rapidly is the science of electronics advancing, these images will speed across the oceans to remote peoples and places, and perhaps the stories that the images tell and the facts they report will be stated pictorially in terms not of mere light and shadow—as at present—but in all the richness and brilliance of full color.

Graphic artists all over the world have a tremendous equity in the present and future of this broadcasting function, which is now involved in a vast, turbulent, ever-expanding industrial complex. If it is true that television today is aesthetically in a period of adolescence, the incredible advances—artistic and technical—which have been made since 1940, forecast in their indication of progress and growth much hope for the coming years. Because television transmits pictures, because television is a visual medium, because television must utilize and translate every art form to its purposes to be successful, it is the concern of all artists.

Specifically, it is the particular concern of those artists who see in the new medium's requirements for multitudinous and expansive production facilities a vocational field of unparalleled scope.

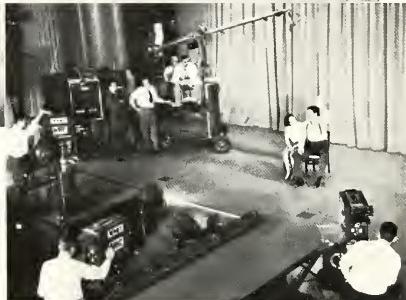
Artists in Television

Artists have been at work in television since the earliest experimental broadcasts. As early as 1935 Lt. William Eddy, inventor, artist and producer, had devised miniature settings in Philadelphia, and by 1938 the pioneer station W2XBS was using sets and titles that were professionally executed. By 1948, the year of television's emergence as a powerful and potentially important advertising medium, all networks and many local stations were employing scenic designers, illustrators, costume designers and letterers by the score.

Today, in New York alone the networks and commercial scenic shops are paying their art staffs upward of \$3,000,000 annually. This figure does not include fees paid to free-lance designers, consultants or



In a theater-studio three or more cameras operate from the forestage or from other areas "out front" and scenery and properties are assembled in a conventional manner behind the proscenium arch.



other art specialists, nor does it include salaries or fees paid to photographers, visualizers, typographers and diorama or miniature makers, nor the salaries of network or advertising agency art directors.

There is the need, then, for two kinds of artists in television production: those who actually design and execute artwork:

Set Designers	Title Artists
Costume Designers	Illustrators
Scenic Artists	Cartoonists
Model Makers	Letterers
Draftsmen	Various Specialists

and those who apply an art training to management or to specific crafts:

Art Directors
Fashion Stylists
Chief Designers
Graphics Heads

Super-Visors

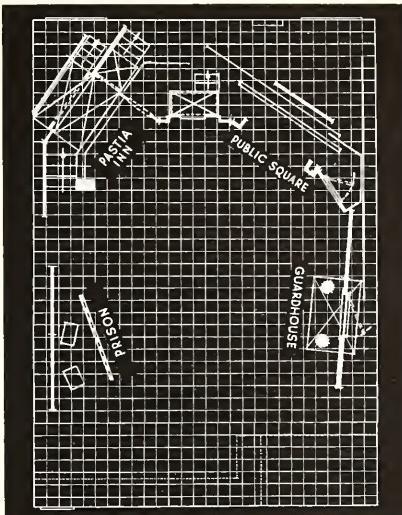
Make-up Artists
(sculptors)
Production
Managers
Visualizers
Set Dressers
(or stylists)

In addition to the hundreds of artists and persons with art training now employed by the networks and scenic shops concentrating on live, studio-produced television, others are engaged in preparing production mountings for motion pictures made in Hollywood or elsewhere (many commercials are shot in New York) expressly for the industry.

Of the Future

In the opinion of experts, television programming within the next few years will consist of from 40% to 60% film, with film replacing many of the present large "live" studio shows. If this is to be the case, is there a point in stressing live studio techniques to the degree that this book does? Fundamentally, there is a very real and important point: more low-budget films for television will be produced in the live studio manner than by the regular higher-standard Hollywood processes. Even today, with film producers turning out more new footage for television consumption than for theatrical distribution, it has been demonstrated that many short-cuts and economies developed in live studio work can be applied effectively. This is not to say that a half-hour dramatic program, on film, has to be produced by sub-standard methods, but rather that every possible device, trick and production economy must be utilized to keep costs down because, in addition to footing program expenses, the sponsor must pay approximately \$25,000¹ a half hour for time on 50 interconnected and non-interconnected stations.

Films for television are made under some pressure for once-a-week programs, virtually under live studio conditions, except that action does not need to be continuous. As a result, experience in live television is extremely valuable. And of course much programming of the future will be live, especially in local stations which sell non-network time to local advertisers. It is thought by leading producers that the big-time, network revues which depend on

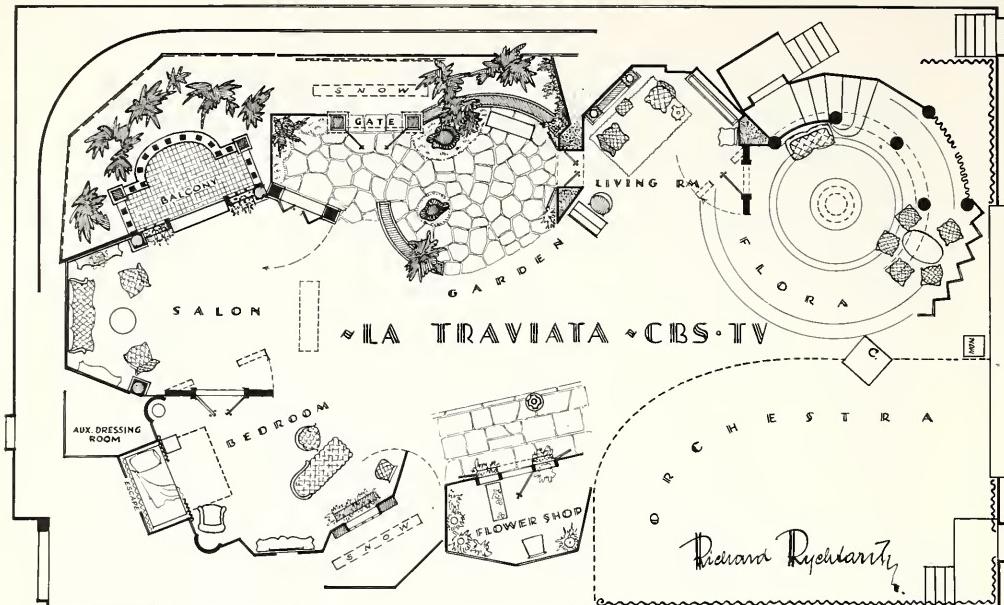


Plan of an early (1944) television opera production presented in an experimental studio approximately 25' by 40'. Note that central areas have been kept free for the movement of cameras and microphone boom.

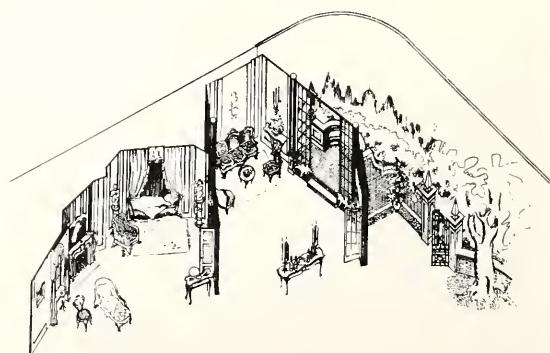
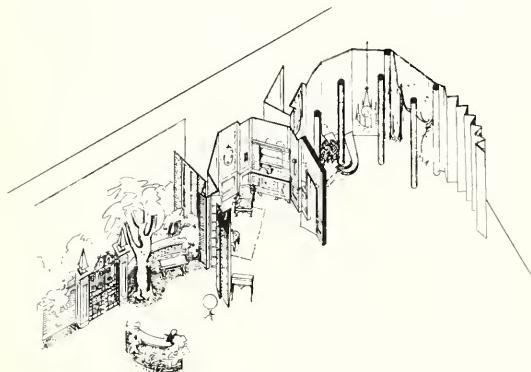
spontaneity for successful presentation may retain their live status for some time to come—and this is also true of low-budget musicals, certain dramatic shows and news, quiz, panel and many other types of audience attendance or participation programs. Perhaps the prognosticators will settle for 50% live, 50% film.

Broadcasters and manufacturers foresee the construction of over 1000 new local stations in this country. Even though these stations will receive most of their programming from network sources, they will nonetheless be forced to fill "local time" with studio originations. The present experience of over a hundred stations, some of which are joined by cable or micro-wave links in minor league network groups, indi-

¹ As new stations become available, network time rates will of course increase. At the moment of writing, a half hour on 63 interconnected and non-interconnected stations costs about \$30,000.



Settings for an elaborate operatic production laid out in sequential manner within the production areas of a flat floor sound stage TV studio. From the CBS-Henry Souvaine production of *La Traviata*, directed by Herbert Graf and designed by Richard Rychtarik.



cates that much of this time will be sold to department stores, banks, specialty shops, milk suppliers and other regional advertisers. A substantial number of versatile artists will be needed. In Cleveland, advertising agencies are already engaged in actual production work; in Boston two young artists are operating their stagecraft studios, furnishing WBZ-TV and agencies with scenery and titles; in New Orleans a modest station staff is turning out settings, costumes and illustrative matter for dramatic shows and commercials.

Artists with a flair for the presentational might do well to look into television possibilities.

Despite the confused state of color television with its three or more systems, its emergence as a dominant factor in broadcasting in the near future is certain. The need for an expanded art staff, trained stylists and consultants has been demonstrated at recent color broadcasts in Washington and New York. Once legal and technical difficulties are cleared away, chromatic television will present creative and vocational opportunities to countless artists and craftsmen.

It is incorrect to assume that television will follow the path of radio. Two departures are immediately discernible: the "pay-as-you-go" plan, by which home viewers subscribe to a service that broadcasts films, leading sports events, hit plays and musicals and special events without advertising; and theater television, which may permit a neighborhood theater of modest size and patronage to project on its screen top-ranking comedy or dramatic presentations unavailable to the home viewer. Perhaps, at first, television in theaters will include prize fights, football games, and an occasional Broadway musical along with a feature film. The plan of transmitting a two-hour show from New York or Hollywood to hundreds—maybe thousands—of local

theaters simultaneously is a fascinating one, and one that is being seriously discussed in the board rooms of broadcasting corporations and by theater chains, the unions and the owners of independent movie houses. Both plans envision the increased utilization of artistic and creative personnel.

There will be many new uses of television—in department stores, in museums, in the school—all of which, because visual elements must be considered, create new jobs for the designer and draftsman. If the electronic age can survive the atomic age, much of our cultural future will be influenced by cathode ray tubes. But it is encouraging to remember that with all the buttons and dials and coaxial cables in all the television control rooms from Radio City to Hollywood, production still requires an artist to paint a drop for Eddie Cantor or an illusive title backing for the Kraft Television Theater.

Television Cities

Many buildings have been planned on paper for centers of television broadcasting, but to date none of any magnitude has been realized.¹ Because of the changing patterns of programming it is not clear exactly what type of structure is best suited to the requirements of the broadcaster—sound stage studios, conventional theaters with stages and auditoriums, or combinations of the two. That future activities will doubtless include substantial film making is, of course, a determining factor of no small proportions.

¹ In New York, Station WOR has completed a new structure, at Columbus Avenue and 67th St.—"Television Square," designed exclusively for TV; studios of 4,000 to 6,000 sq. ft., camera-equipped rehearsal halls and area-ways for trucks to enter at street level are included. The major networks are all engaged in construction, both in New York and on the West Coast, and plans for future developments are slowly being finalized.



Typical of many temporary studio installations is this staging arrangement in an art gallery at Gothenburg, Sweden, where Radiotjänst has produced such dramatic offerings as *Welded* by Eugene O'Neill.

Television sound stages (flat-floor areas 1500 to 10,000 square feet and over) normally have a complement of three or four cameras. In operation, scenes are played at any point in the studio accessible to cameras, and settings are usually arranged around the outer periphery as close to walls as possible in order to provide sufficient room in the central areas for camera and microphone boom movement. In live production, scenes are picked up simultaneously or sequentially by the cameras and the director cuts or edits the results according to a rehearsed schedule in such a manner that the images that actually go "on the air" reveal the proper information to the viewer.¹

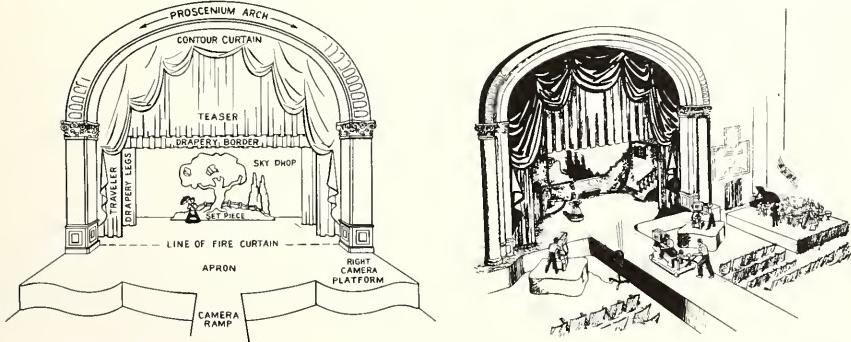
¹ N. Ray Kelly, writing in Royal: *Television Production Problems* (McGraw-Hill), explains "editing in time and space" and condenses theories behind techniques adapted from the films.



An elaborate two-levelled hotel lobby setting assembled on the sound stage of CMQ-TV, Havana, Cuba, for the General Electric program, *Grand Hotel*.



In the flat-floor, sound stage TV studio, three or more cameras pick up scenes arranged in a sequential manner. During rehearsals, cameras, actors, lighting and the movement of physical equipment are carefully integrated.



Refurbished legitimate playhouses are transitional theater-studio forms, which include standard stage equipment, camera ramps and "islands," and facilities for handling and seating a relatively large audience. Above, stage nomenclature; below, a sketch showing one type of theater installation.

Unlike movie procedure, television action is continuous, and on cues cameras move from scene to scene as the show progresses. Film, slides, scenes from other sound stages or from remote locations can be edited into the program content. When programs originate in theaters with audiences in attendance, cameras operate from platforms or extensions of the stage apron, from boxes, the balcony or from any station point "out front."

Today, most sound stages used in live television are inadequate; because of the unusually rapid growth of the industry there has been no opportunity to plan and build. For a time television managed to survive

and even advance in made-over radio studios, superannuated movie sound stages, lofts, hotel ballrooms, ancient theaters and, in the case of one network, in a Coca-Cola bottling plant. But broadcasters are looking ahead and have already allocated sums of astronomical proportions for new facilities, stages, auditoriums, shops and storage areas to be constructed during the Fifties. Vast, efficiently articulated, spacious television cities for New York, Hollywood and possibly other production centers are no longer mere dreams of the future—architects and engineers are beginning to sharpen their pencils in earnest.

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PLANNING A PROGRAM:

THE ARTIST AND THE PRODUCER

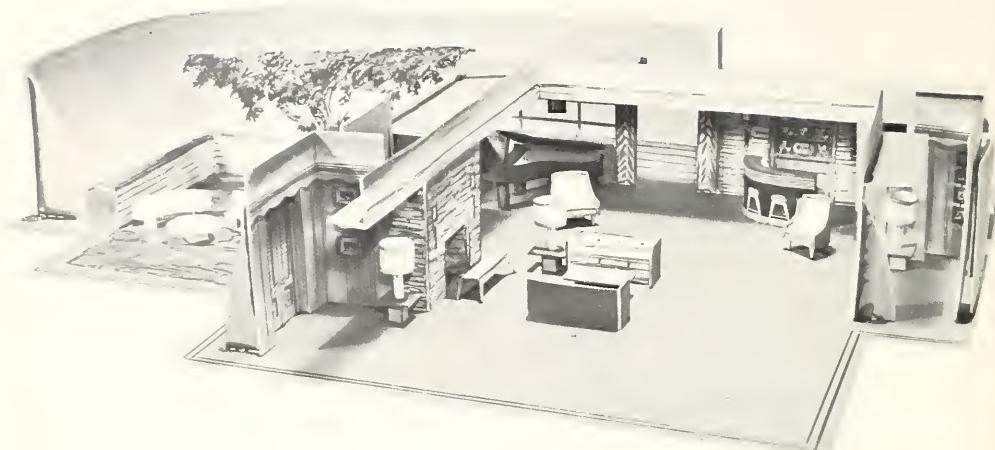
THE stage crafts are interpretative. In the theater, in films or in television, settings, costumes and other décor do not exist by themselves but are indicated to implement action of one kind or another. In television this action may involve displaying of a can of soup or staging the ballet *Giselle*.

Thus the artist in television—unless he is simultaneously writer, producer,¹ director, scenic designer and choreographer—must receive information from some source in the program-production department of the network or advertising agency as to the essentials required for the staging of any given show. If time were not a factor, producers could turn over scripts to a designer, who after thorough study would submit

"roughs," possibly in storyboard form, thumbnail sketches, and general production ideas which the producer could reject or accept for subsequent development. But such a process takes weeks. In television, scripts are not always available in advance, and the producer of a weekly dramatic or revue program is always hard-pressed for time. Once a script is procured, the production planned, actors engaged, shots and effects worked out, there is little opportunity left for the give-and-take of purely critical discussion. Television methods are very different from those of the Moscow Art Theater Players who, it is said, rehearsed and examined and altered and re-rehearsed some of their offerings for months upon months until they were ready to present them.

It is customary in television for the producer to analyze program scripts and to order physical and artistic details that will enable him to obtain the effects and the shots he wants. As will be demonstrated, this method does not exclude consideration of the artist's creative interest or limit the importance of his contribution to the stag-

¹ The word *producer* is used extensively throughout this book. In television the producer is the executive head of a program unit with overall financial and artistic responsibilities; the *director* actually rehearses the show and puts it on the air. One producer may supervise three or more programs and employ as many different directors. Too, there are producer-directors who combine activities. In the interests of simplicity, the title of the program chief is used here.



Interior settings, exteriors, and "wild walls" assembled back-to-back in the studio are often planned with the aid of scaled sketch models. Otis Riggs designed and executed this miniature to indicate to producer, actors and cameramen spatial relationships and acting areas in a dramatic program setting.

ing of the show. It is immediately obvious, however, that the mere ordering of individual items, such as settings, costumes, title and other essential artwork without regard to their relation within an artistic entity is not the best way of achieving a homogeneous or harmonious whole, or of integrating many of the artistic factors with the operations of other staging activities—scenic construction, property assembly, the employment of manpower, the scheduling of broadcast studios and so on. A clearing-house must be established.

The Production Meeting

In order to correlate the producer's requests and to channel these orders for stag-

ing adjuncts properly and efficiently, most networks, individual stations and commercial scenic shops have instituted the practice of holding production meetings which are attended by:

- The Producer
- A Production Manager
- The assigned Technical Director¹
- The Art Director (or designer)
- An Estimator
- Any Departmental Heads
(if required)

For the benefit of these specialists the producer describes exactly how he proposes to stage his program—be it a simply

¹ The technical director in television is in charge of the camera crew. He may also direct lighting.

presented daytime "Shopper Show" or a complex musical revue—and distributes and explains orders for props, costumes, artwork and make-up. He may have prepared a rough floor plan of settings to show exits, entrances, and special shots or he may choose to draw these on scratch paper during the meeting as he talks to the art director and production manager.

Now, of course, there are many phases of staging discussed at a production meeting other than those concerned with scenery and artwork. Since this book concentrates only on the arts and crafts in television production, however, the reader will assume in the following analysis of a typical meeting that the essentially physical problems involved in the show under observation have been solved to everyone's satisfaction. In this analysis, the name of the program, the

agency and the product are fictitious, but the subject matter and the methods discussed are based directly on actual station-agency-producer conferences. A special glossary is provided at the end of the book.

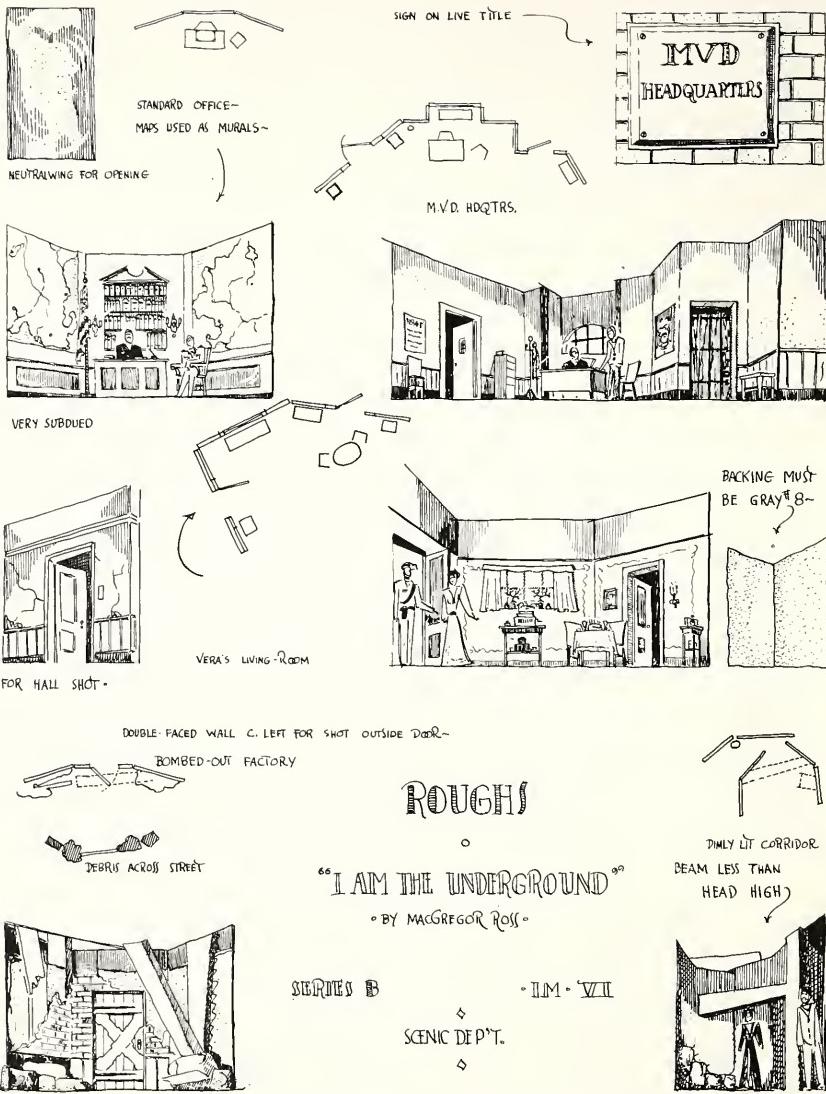
Program #617: Preparation

So that the artist will have a complete and true picture of "how television works" and what he may expect in the matter of information relative to program details, a production meeting held to go over the staging of Program #617¹ is "reported"

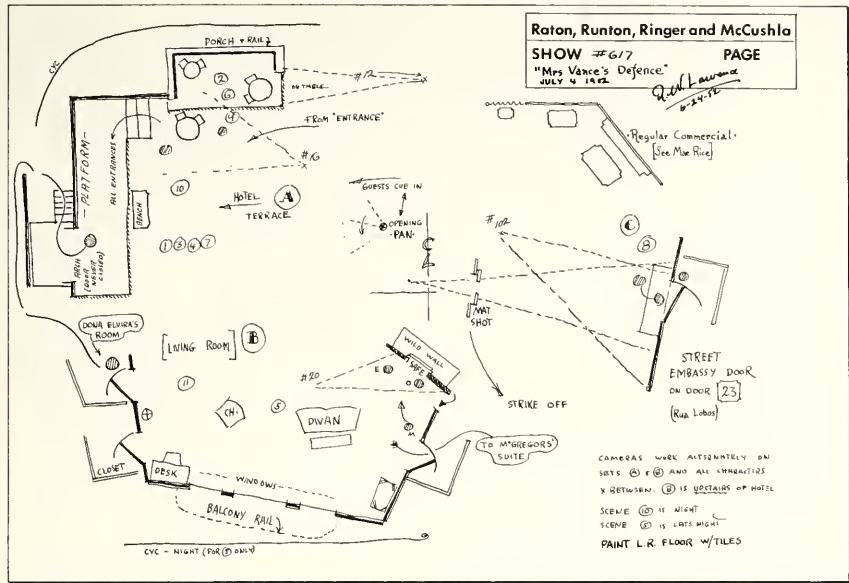
¹A dramatic program has been chosen as an exemplar because the production raises several points of interest to the art director and his assistants. The particular script is very much like a recent network production. While a large-scale musical revue is perhaps more complex, I feel that staging the latter is almost like designing for the theater; producing in the live sound stage studio involves an entirely different approach.



After the production meeting, when time does not permit the execution of a complete storyboard, the designer frequently prepares rough, thumbnail sketches of indicative shots as he works out setting details. These maquettes assist the producer in visualizing dramatic action and stage business. Sketches for *St. Helena* by Otis Riggs and for *Down in the Valley* by William Craig Smith.



Another type of rough visualization, prepared by a scenic contracting firm to show client possible arrangements of settings—rather than shots—before final designs are developed. Producers normally can "read" such sketches more easily than they can factual blueprints.



A producer's rough, unscaled layout, showing settings, props, camera movement and sequential shots in a composite plan drawn for discussion purposes only.

partly in dialogue as though a stenographer had been present to record the minutes verbatim.

The advertising agency of Raton, Runton, Ringer & McCushla represents the U. S. Cheese Co., which produces a half-hour program over the facilities of the NYC-TV network. The meeting, held approximately two weeks before the day of actual broadcast, is attended by an agency producer-director (who rehearses the cast in a rehearsal hall for about a week before "going on camera"), a production manager, representing the NYC management, the NYC art director, the technical director, and an estimator. The producer is talking:

"Program #617 is about an international woman spy who is operating in some Latin American country—the sponsor doesn't want the name of the country used

because they sell a lot of grated cheese there—so I'll call it Aztec. There are three sets: a terrace of a tourists' hotel; a small living room in a hotel suite, with windows supposed to overlook the terrace; and a street corner where the consul is shot. I'll give you the scripts, but don't pay any attention to Scene VII, pages 49-60, in Dona Elvira's bedroom. I cut this and we play this scene on the divan.

"Now, this show is basically a comedy melodrama," continues the producer. "I want to get a lot of color in the opening shots—like tourists and guests crossing by the camera here." And the producer shows of his unscaled rough (ill., above) the movement he wishes to pick up.

"I won't be able to get Camera #1 (the dolly camera) back far enough to pick up people on the steps," the technical director



A series of hastily prepared pencil and wash drawings by Otis Riggs, NBC-TV, shows ideas developed during a production meeting rather than actual shots for a proposed production of *Carmencita and the Soldier*.

says, "because if we do we'll shoot over the top of the set here." And he points out a spot over the niche.

"That's all right," replies the producer, "we'll elevate #1, then dolly in with a group of extras and pan them over to the door. And in that opening shot I want some girls in sunsuits sitting on the platform by the steps talking, so don't make the parallel too high."

"Three steps up at that point," suggests the art director, "so we can use the stock 24" parallels. How about two curved steps here—they'd be more typical and decorative than a two-step?"

"Would you have to build them new?"

"Oh, no, we can use 8" stock steps."

"O.K. Because there's a lot of painting

time going into these sets and I can't afford to build anything new, except maybe a niche and the balcony rail (see ill., p. 39) in the interior. All right, now let me go through the important shots in the hotel exterior set."

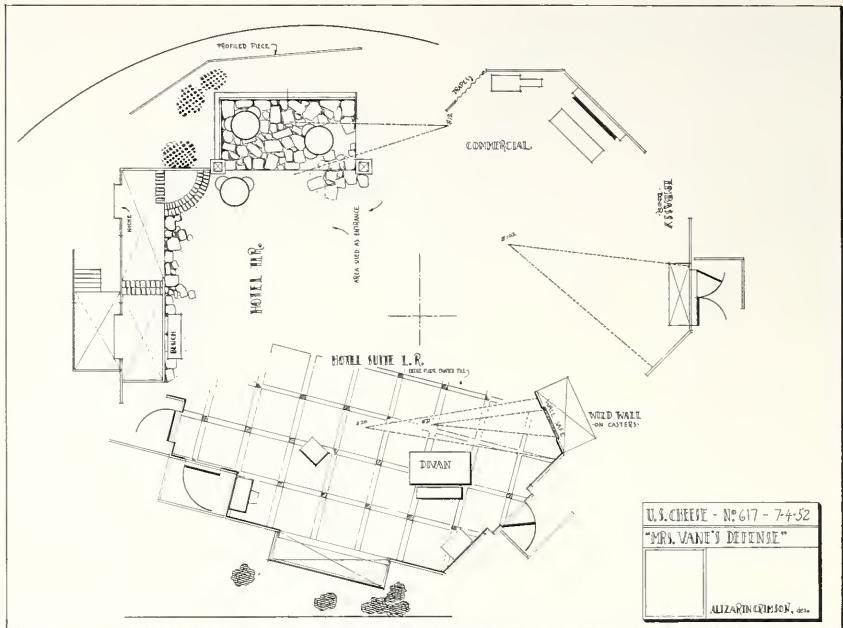
Referring to his rough and to marked shots in his script, the director proceeds to list and describe main camera shots and collateral physical problems. The art director's brief notes reflect lengthy comments:

1. Opening shots, dissolve from a superimposed title, with extras, waiters, et al. on set—from camera right—long shots.

2. When Mrs. Vane (character) exits into hotel—no door, arch always open—she has quick change (4 min.) into evening



On complex shows and when time permits, elaborate storyboards are prepared by a visualizer who works closely with producer and set designer. Above, 15 sequential shots planned and drawn by Arthur Wells, NBC-TV, for Philco's 'The Great Escape' and an Air Force documentary.



The designer's scaled floor plan of Program #617 with full, detailed scenic and prop development.

gown for Scene II in interior. Sets must be built close to save time; also, Gertrude (character) has similar change, Scene IV (2 min.). Ask Bessie for dresser and off-stage portable.

3. Gertrude joins José at table after Vane exit. Note shots from two angles.

4. When Sgt. Garcia (civilian clothes) receives telegram he is seated on bench. To establish his identity, cut to C.U. of (duplicate) telegram. Use blank with Spanish masthead, but message in English, tele-type pasted on: SGT. SERAPHIM GARCIA VILLA MONTE—BELIEVE MRS. VANE TO MEET STRAVINSKI IN CONSULS ROOM TONIGHT STOP INTERCEPT PLANS—MORALES. Duplicate message to be blown up slightly and held by studio crewman.

5. During final shots, Scene I, waiters bring in two additional tables, chairs, matching those already in place, set on main terrace. Extras change for cocktail sequence. All lamps on, sky darkens. End: dolly in close to niche. Details to be well rendered for C.U. Build out plaster molding.

The producer continues to go through the entire script, pointing out on his rough the shots he proposes to take. For Scene II he requests:

" . . . a small, intimate living room in the Villa Monte Hotel—large windows at the back, door left leading to the McGregors' rooms, doors down camera right to Dona Elvira's room and upper right to closet where Sgt. Garcia hides. Now this door-



An opening shot from the Philco Playhouse program, Van Gogh, sketched by Otis Riggs after a production meeting, before set designs were fully developed.

knob should have some sort of decoration painted on it so we can see it turn in a close-up."

"How about a star in a circle?" suggests the art director.

"That's an Army insignia," warns someone.

"All right, just the star, then. So, over here [see plan, p. 31] is a divan for two; opposite, a big, heavy, carved chair that will make a lot of noise when it falls over in the fight; and up here by the windows a desk. On the left, something to balance a shot which includes the door."

"A low chest, Spanish or Italian Renaissance, with a heavy portrait over it?"

"Yeah, something sinister—you pick it out." The producer pauses. "That's all for the furniture. Very little dressing. Also, not many long shots except when Gertrude goes to the window and Garcia joins her on the balcony. The floor I want painted. Big tiles. And look, this is important: I need a wild wall down camera left, so that when Garcia discovers Mrs. Vane trying to open the wall safe I can get a shot from within the set. Any questions?"

The art director starts making scratches



An isolated shot from a period drama prepared to indicate atmosphere and lighting.

on a piece of paper. "Wouldn't it be more decorative and better for your business—if I haven't read the script yet—if I make one huge arched window at the back? Actually, it would be cheaper. You wouldn't need any side drapes and the shots would be cleaner—that is, just simpler. You wouldn't have a busy background with a lot of criss-cross muntins. You'll just have the rail, which is low, and a plain sky backing that ought to go slightly out of focus."

"I can't guarantee that," objects the technical director. "But hang the cyc as close to the studio wall as possible."

At this point the producer answers a score of questions raised by the production manager and art director relative to the "practicable" safe in the wild wall; the design of the tiled floor, which is to be painted directly on the studio linoleum and scrubbed up after the show; and the possibility of using a recessed door in an arch camera left to give the set apparent solidity. "We can assume," he suggests, "that the builders of this hotel purposely made it atmospheric to attract the tourist trade."

These matters noted, the group turns its attention to Scene III, and discusses a series

of shots in the hotel exterior including the use of a mat shot in which one of the cameras shoots through a miniature arcade (see ill., p. 38) as a prelude to a romantic scene. And after a half hour on these details, the short street scene is described and various ideas developed.

"As to costuming," the producer continues, "we have three waiters, the extras' winter resort clothes and sunsuits will be furnished by Hattie, Inc., for a credit, and the principals will furnish their own clothes,

although I think we ought to get the stylist to find something light for Miss Binley in Scene II because all her other evening gowns are pretty dark."

The art director checks back through his notes. "What about the messenger who delivers the telegram?" he asks.

"That's brought out by one of the waiters. We assume that it was delivered inside." The producer hands the art director a costume list, which provides such information as:

CHARACTER	ACTOR	COSTUMES	AVAILABLE
Mrs. Vane	Bette Binley PL 7-2811	Her own I, traveling II, evening dress #1 III, evening dress #2 IV, negligee	Any AM, week of 6/23/52 for any fittings of dress #1.
Vincente (waiter)	G. Street VI 2-7000	Rent—blue trousers, short white jacket, black bow tie.	Tues. or Wed. PM 6/24 or 6/26 after 3 PM for size.

and so on, through the whole list.

The production manager points out that someone from the costume section ought to look over the extras' sunsuits to make sure that they are not too abbreviated for broadcasting purposes, and it is decided that there will be a dress parade at the rehearsal hall.

"There are no make-up or wig problems," the producer says, "but the hair stylist ought to work with Miss Binley very closely. Her hair-do should be 'different.' She should look like the typical movie international spy." The art director notes this. The producer and the technical director go over several special lighting effects and camera movements; the latter rules out a wrought-iron chandelier in the interior, indicating that if it is hung low enough to show in shots it will interfere with movements of the microphone boom.

"Do you have any objection to my hanging an awning over the camera right portion of the terrace?" asks the art director. "An

edge of a gay awning in some of the shots would give a tropical impression." This idea is examined by all hands and found to be practicable. The producer emphasizes that the overall style of the physical production should be slightly florid and theatrical because the action in the script is somewhat improbable and melodramatic. "Frankly," he explains, "the actors will need all the atmospheric help you can give them. And even on the title backgrounds I want something typical to follow through along these lines, like a skull and crossed bones, or"

Someone proposes that since the script is about a woman espionage agent a good title background might be a photographic still life of a pair of delicate looking elbow-length gloves, an orchid, and a pearl-handled .22 revolver, with white lettering imposed. The art director makes a note and a sketch while the producer gets out his title orders, which his girl Friday has typed:

Raton, Runton, Ringer & McCushla
SHOW: #617 DATE: 7/4/52

Raton, Runton, Ringer & McCushla
SHOW: #617 DATE: 7/4/52

TITLES

1. Opening and Billboard—Standard		FILM
2. Show titles		
a. U. S. CHEESE presents	white over	4 x 5 BALOPTICON
b. MRS. VANE'S DEFENSE	suggestive	
c. by FRED ROE	background	
Dissolve out and dissolve in open- ing shot. Super over:		LIVE
d. The VILLA MONTE HOTEL April, 1949	white letters for super; plain background	4 x 5 BALOPTICON

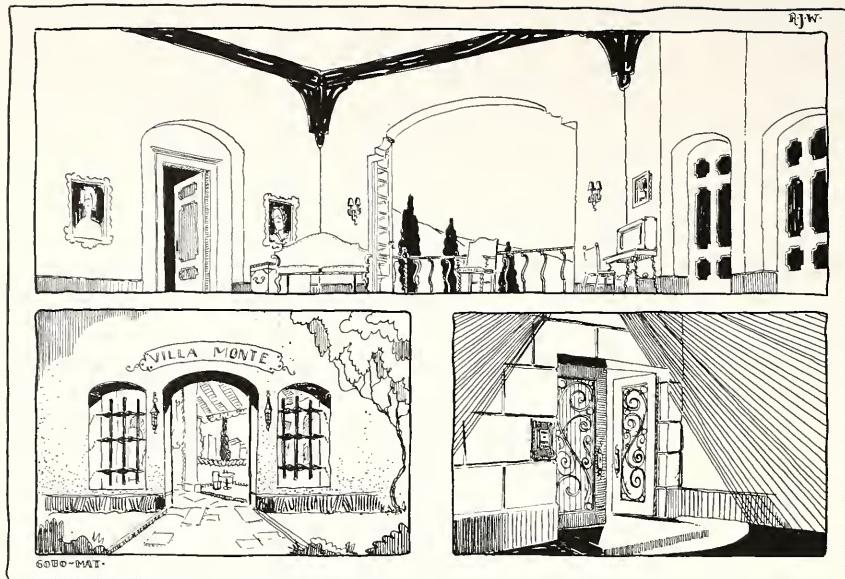
3. Etc.

The titling plan, involving several pages of similar information, also includes artwork used in the show (such as the duplicate telegram with Spanish masthead), closing titles, actors', director's, designer's credits, and credits to suppliers. After the meeting, the production manager or the art director will edit the plan and present it to the graphics section with full instructions.

The main business of the production meeting except for discussion of the middle live commercial is over. Although the commercial for this particular program is a simple demonstration of the sponsor's products, masterminded by a well-known chef, it is thoroughly discussed by the group, and separate costume, titling, and other information is submitted with scripts.



In the TV control room a producer, two girl Fridays, technical director and designer watch the results of their planning at a dress rehearsal of a studio dramatic show. NBC photo.



A designer's sketch of the interior and the street corner setting in Program #617. Lower left, the 30" by 40" cardboard "gobo" mat requested by the producer. The archway and windows are cut out to permit the camera to shoot through these openings for "establishing" or "geographical" shots.

After the meeting breaks up, the producer returns to his office to work on the casting of this future program and to concentrate on the current week's show. The production manager gets busy with prop lists and scheduling routine, while the art director, after distributing information to assistants,¹ hastily prepares a scaled plan of the settings and rough sketches for presentation to the producer. The technical director orders requested gear, such as extra mikes and special optical effects, and checks on the assigned crew, posting rehearsal hours.

After the art director completes scaled plans (ill., p. 34) the estimator, who now queries all sections on materials and manpower costs, prepares a tentative estimate

which is telephoned to the producer who, at the same time, usually checks and approves the scaled plans and thumbnail sketches of the settings presented by the art director. If the estimate is over the producer's production budget (see Estimates, p. 201), adjustments or compromises in the physical staging may have to be made and normally desirable effects, costumes, titles, even entire sets are eliminated or simplified. But when the producer O.K.'s the final plans and estimates, the job is considered "frozen," and the work of assembling props and costumes, of building, painting and decorating settings, and of executing photographs, camera mats and titles actually starts.

The minutes of the foregoing production conference, although palpably fictitious, nonetheless follow almost word for word actual, recently held discussions. However,

¹ At this point, the art director may turn over the scenic information to a designer who completes plans and supervises all execution.

reporting this material here does not necessarily endorse this process of transferring ideas or imply that the method of the producer's "ordering" program facilities is an ideal one. It isn't. But it does accomplish satisfactory results in a manner that is compatible with the pace commercial television production must maintain.

Experience has indicated that the highest qualitative levels are achieved when the same producer, designer, technical director and production manager work together over an extended period and establish among themselves an almost telepathic understanding and a necessary facility of collaboration.

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A good, basic work for the art director, producer and director, containing a substantial amount of material and diagrams on picture composition, unity and balance.

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A thoroughly practical work on production, by a pioneer director and network executive, for the art director and general producer.



For the convenience and information of the producer, the designer frequently sketches principal settings in perspective. Above, the hotel exterior in Program #617. Occasionally photostats of such sketches are attached to working drawings or carpenters' elevations so that craftsmen may visualize overall effects.

3.

ART DIRECTION

THE FIELD OF THE SPECIALIST

To the advertising and broadcasting industries at large, the television art director is a specialist employed in the dual capacities of executive and consultant by a network, a production company, or an advertising agency. In actuality, although he is personally responsible to his management for the artistic appearance of the broadcast picture, the network art director is more properly a supervisor of other specialists whose work ranges from scenic painting to sculpture and from costuming to caricature. If he is on the staff of a large station he is an "operator" or a virtual employer; if he is engaged by an agency or an independent production company, he becomes a liaison officer or executive with the responsibility of allocating art production jobs to commercial studios and shops and of following these commitments through to satisfactory completion. It has already been demonstrated in Chapter 2 that the task of assembling and combining the multifarious production adjuncts is a difficult one; the creation of these settings, properties, costumes, illustrations and other artwork is of course twice as involved and complex.

[40]

The Art Director His Job and Background

Broadly speaking, the art director not only finds and employs a wide variety of assisting artists, but effects a synthesis of their talents and abilities so that all visual portions of a program are consistent with a predetermined style and are fused into apparent unity of effort. For example, titles designed in modern typefaces like Rondo or Tourist, or illustrative matter designed in a posteresque technique do not contribute to the effectiveness of a Gay Nineties comedy-drama; nor do revue-type drops and painted set-pieces executed in a purely decorative manner provide proper background for the realism of a documentary. The very nature of television programming indicates that production artwork must be created and completed under considerable pressure and, because of this time problem, six to twenty or more men may be assigned work on various phases of a single job. Without the constant supervision of the art director and guidance provided by copies of detailed plans, elevations and sketches, individual operatives depending on

brief word-of-mouth directions may inadvertently make monstrous and costly boners through ignorance of the producer's overall intention.

The mention of a few errors that occurred during television's early experimental period should suffice to show how misunderstandings develop when there is no control:

A director producing a children's fairy story program requested "a title card reading, The Palace, with suitable illustration." The graphics artist, uninformed of the program content and assuming from the name that the title was for a vaudeville show, carefully enlarged and retouched a photo of the old Palace Theater. Over the glowing marquee he imprinted the requested lettering.

For a dance act in a variety program loosely described as "an Oriental number," the set designer turned out a profiled set-piece with Byzantine domes; the titles were executed in pseudo-Chinese hand lettering over an air-brushed Buddha and the costumes of the extras were Cambodian. Each artist thought that his concept was correct. The dance, incidentally, was Egyptian.

A designer gave a reasonably clear but unfinished (and unapproved) sketch of a circus midway setting to several scenic artists, requesting them to fill in details ad lib. When this scene for a program sponsored by a well-known ginger ale bottling firm was assembled in the studio, one of the more prominent areas featured a concessionaire's stand, complete and realistic in detail with a sign in 8" letters, "ICE COLD LEMONADE." Since the sponsor could hardly be expected to promote a competing product, the stand and sign had to be painted out immediately.

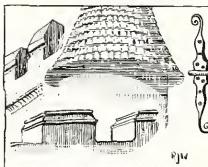
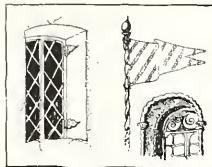
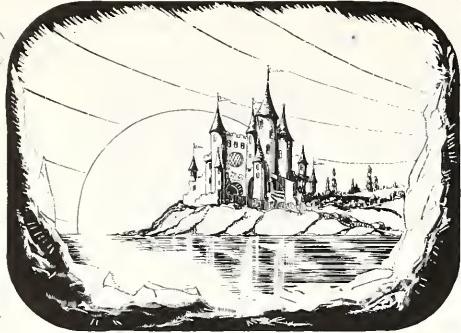
A title artist, pasting up a fictional headline on a mock-up newspaper, innocently



Whether the program is a simple quiz show or a Shakespearean revival the synthesis of sets, make-up, furnishings and costumes is the responsibility of the TV art director. Here is a shot from the NBC Masterpiece Theater production of Othello.

arranged the page so that the camera picked up a quarter-page display ad inserted in the real newspaper by one of the sponsor's competitors. In the haste of production preparation, the shot was actually broadcast.

A costume designer planned fanciful costumes with animal heads attached for a Peter and the Wolf ballet sequence; unknown to her, but at the director's request, the make-up supervisor had designed and prepared elaborate make-up and half masks. Before dress rehearsals the animal heads had to be cut away from the body of the costumes, resulting in both frayed edges and jangling nerves.



Courtesy J. Wain

To provide artistic unity, the TV art director often adapts set designs as title backgrounds. Above, a designer's working sketch, with suggestive details for scenic artists. A title slide with lettering imposed over a photograph of the actual, completed setting.



Although these and other similar examples occurred some years ago during a period of rapid growth and consequent confusion, they pointed the need for overall art supervision as well as for a system to provide sufficiently specific information to all assisting artists. In television, the cost of correcting even small errors is substantial. The actual work of alteration frequently has to be accomplished during overtime hours and often is of such a nature that it interrupts or delays camera rehearsals, involving highly paid stars, actors, technicians, stagehands and musicians. To help avoid these time and money losses, most networks by the time they were broadcasting 20 hours weekly had engaged art directors to correlate art information and to channel scenic, costuming, and other work efficiently. In a majority of cases, these art chiefs were Broadway scenic designers.

In preparing the mountings for a play or musical revue, the stage designer has perhaps four to six weeks to lay out blueprints and to

render sketches, to mastermind and control the purchasing or renting of draperies, props or set dressings. He can normally handle the details of selection or procurement himself, although a very busy designer may have one or two part-time assistants during the peak Broadway season. Since the stage designer is responsible to one director or one producer (or a small producing group) it is not difficult to secure unanimity after the general artistic theme of a production is established.

The television art director works under a very different set of conditions. His staff may be creating from a dozen to over a hundred backgrounds weekly and the results must be approved by studio directors, agency liaison men, account executives, and possibly the sponsor's art or sales departments. Functions that in theatrical preparations are taken over by one craftsman are in television necessarily delegated to many. Operations in large network centers frequently continue around the clock and the scheduling of artists and

craftsmen over weekends and evening periods indicates the formation of crews or shifts. This means that the art director must provide a steady flow of clear and definite information so that as various staff members drop out or report in on a daily or an hourly basis, all operations may continue without interruption. It is thus easily possible for as many as three different groups of scenic artists, for example, to be assigned work on a spectacular, ten-set dramatic program. Much like three laborers in schoolbook algebra problems, Group A completes a third of the work by Friday at quitting time, while Groups B and C take over on Saturday. But at 1 P.M. Group B is scheduled to start a series of scenes for a variety show, deliverable to the broadcast studios ahead of the dramatic program, so Group C finishes the drama, assisted by Group B on Sunday after it has completed its assignment.

Quite obviously, the art director must create a system of information distribution that permits work to proceed with as little

dependence as possible on oral discussion or on hastily prepared arty watercolor sketches. The week-to-week problems inherent in this tightly scheduled operation and the methods of achieving order and efficiency under these difficult working conditions are discussed in the following chapters.

The Gray Scale in Television

Achromatic television¹ does not offer the artist the wide range of values that normally exists in black-and-white photography, half-

¹ TV pictures (images) are created by translating light into electrical impulses which are activated in such a manner that by a "scanning" process an image in light and shade is produced on the phosphor-treated face of a kinescope tube by a stream of electrons. This image is built up from 525 horizontal lines of left to right scanning, somewhat as an artist might air-brush a surface with a very fine spray adjustment. Because of the "persistence of vision" factor, the human eye sees the image being scanned as a completely resolved picture.



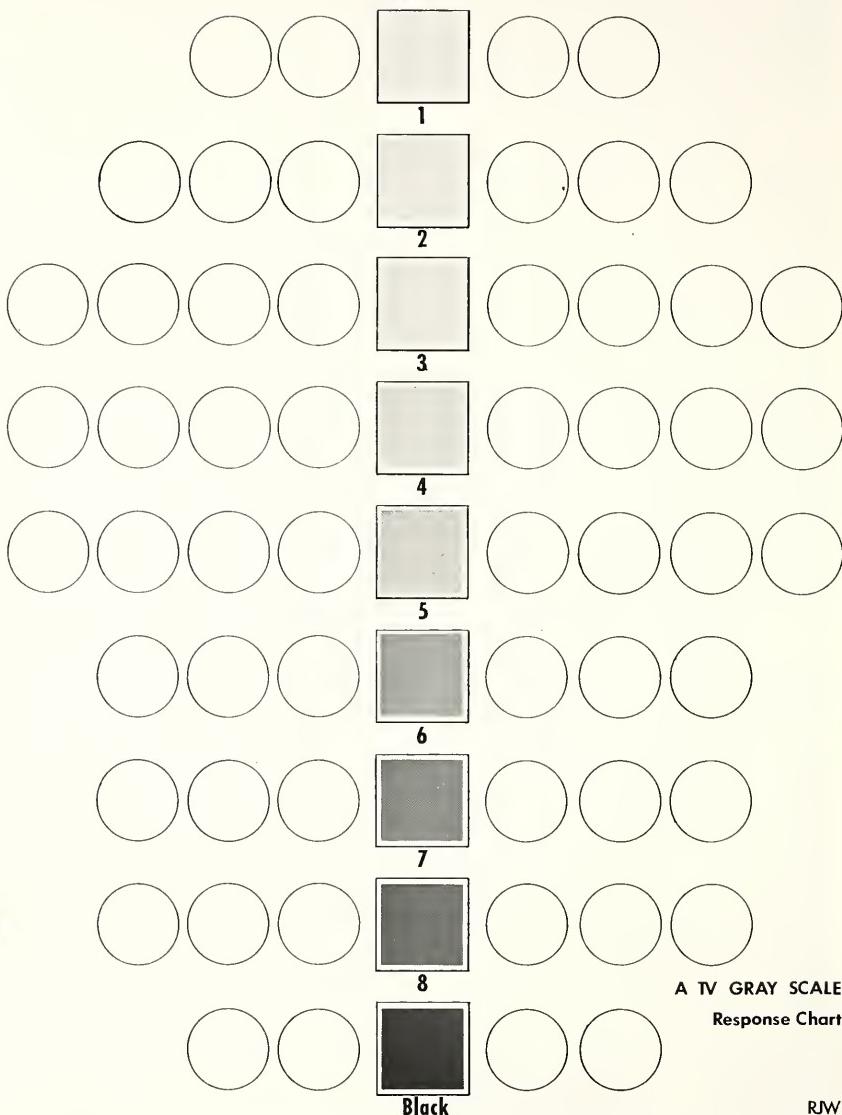
A well-executed setting in good gray scale balance with definitive lighting. Designed by Henry May for the CBS-TV production of *Skylark*.

Warm Colors...

GRAY

...Cool Colors

VALUES



A TV GRAY SCALE
Response Chart

RW

A diagrammatic layout of a TV color, gray response chart. Swatches or color chips may be extended, right and left, to include as many hues and values as desired.

tone engraving or, for that matter, in motion picture film. Although all engineers do not agree as to the exact number of gradations that can be transmitted by the electrical and electronic system, it is generally admitted that 8 or 9 values, including a near-black, is average. Observing under ideal, laboratory conditions some technicians have claimed a count of 18 or 20 values, but of course this finding does not take into consideration light losses and other degradations incidental to transmission of the image to remote points.

Working with a scale of approximately 8 black-and-white gray values (off-white to black) would ordinarily present no problem to the artist. Indeed, this palette restriction often forces the television graphic artist to produce simple and effective copy of post-*èresque* clarity. But the set and costume designer, the set dresser and the make-up specialist cannot operate so readily in a world of gray. Their media—draperies, furnishings, fabrics, furs, accessories, cosmetics, and the skin tones of actors and performers—have color, expressed in hue, value and intensity. Since it is impractical to attempt to reduce all these staging elements and adjuncts to chromatic neutrality, the art director must become acquainted with the gray responses of colors as reported via the camera system. If he does not know color responses, he will be at a complete loss as to means of obtaining contrast; and draperies, furniture, costumes, and even patterns on wallpaper may melt into backgrounds.¹

Because of variances in equipment and lighting methods it is advisable that each station record its own response chart for the information of producers and the entire art staff. The process is simple:

¹ In an actual experiment the walls of a setting, painted pale blue-green, were stencilled in light vermillion (coral). While the pattern was easily discernible in the studio, it completely disappeared "on camera" because the two tints, although different in color and unequal in value, had the same gray response.



In this realistic scene for the NBC opera *I Pagliacci*, the effect of moonlight is achieved by directional lighting and a dark background.

1. From any collection of standard colored papers or color swatch cards (such as Color-aid, compiled by Sidney Beller, Color-aid Co.) assemble 9 consecutive gray values from off-white to black that, in the opinion of an experienced engineer and the art director, are nearest the values observed in a transmitted image.

2. Lay out these swatches, each cut about 9" square, on a heavy piece of cardboard so that the entire arrangement may be easily fastened to a studio easel; the swatches may be pasted on in two groups of four, or as segments of a circle, or in any way which will permit the camera to "pan" over the values sequentially.

3. Prepare 50 to 75 sample color swatches (in all hues and varying values and intensities) on cards about 9" square of mounted colored paper (some, at the discretion of the art director, may be coated with scenic paint). These samples should have a mat surface.

4. Set up a television camera and a receiving set (monitor) in the studio, and as



COLOR RESPONSE CHART. After extensive studio tests during which the gray response of colors has been calibrated with the gray-scale range of the Image Orthicon tube, it is necessary for the art director to provide a color guide, indicating approximate responses of as many different hues, tints and shades as possible. Above, color chips representing a group of 200 different colors being assembled for a gray-scale guide. Below, camera tests reveal, for example, that Green, Tint 1 and Red-Violet-Red have identical gray responses (Neutral 5.0). In this particular test Color-Aid colors were calibrated with Munsell grays.





Gray-scale analysis of a single TV shot.

colored cards are compared to gray values on the system, mark each color with the number of the gray which it most closely resembles. It is convenient to mark certain colors with intermediate gray responses as plus or minus. Thus a medium tint of green may have a response of 5; a medium tint of blue, 5 plus, or slightly darker.

There is nothing absolute about the results of this analysis, but the responses, properly numbered, and subsequently reduced in size for convenient handling (see opposite) are extremely helpful in arranging those elements of a setting that must be in color.

The engineer handling the video signal on a program cannot "stretch" the range of values, but he can alter them occasionally for certain types of effects. If, however, in a night scene he "bats down the blacks," the entire scale of values descends and the off-white approaches a light gray. If he "hits the whites," the darker grays and black lose their punch, the transmitted picture looks pale and washed out, and highlights are likely to be too brilliant. The decision on this control must be made by the technical director and the producer and depends entirely on the effect to be achieved. The artist, however, if he adheres to an established gray-scale color response chart and



When technical adjustments are made in the TV system to darken the entire picture, the value range is reduced; Values 6, 7 and 8 (see Chart, Page 44) go "black," and "whites" become grayed. Similarly, an adjustment to lighten the tonality washes out essential deep tones. Above, a filter over a photograph of an isolated shot suggests the results of altering the value range downward.

places contrasting colors in the proper juxtaposition will find that his work does not lose clarity when the range is raised or lowered. By analogy, the procedure is something like playing a tune in a different key on an instrument with limited scope.

In general, pure white should be used only for accents and highlights, and in very limited quantities. Flashes of pure white (clear light) on the kinescope "screen" are likely to be surrounded by an unwanted aura of black in ugly splotches.

Professional Training

By indicating the need for the art director's position, and delineating some of its complexities, this chapter makes a point of stressing the heavy responsibilities involved. They are heavy because they deal with time, money, and qualitative standards, necessarily all-important considerations to station management and to the sponsor, who in the final analysis approves the results and pays the production costs.

How does the art chief prepare himself to take over the guidance and direction of a multi-technical department that may be required to design, execute and deliver in one day as many as five separate scenic productions, complete with furnishings, commercial display material and allied equipment? Before discussing any formal training, it might be well to answer this question in an inverse manner by analyzing certain additional operational functions.

Because the concentration in television production is on settings and costumes, the purely presentational or "show" aspects, most network art directors are former stage designers or architects with motion picture art experience. The ideal art director however, unless his function is largely administrative, now requires a more catholic background in order adequately to supervise the work in all sections of his department. It is apparent that practically all techniques and methods developed by the fine and applied arts during the past 1500 years are utilized in one form or another in production artwork, and that these may range from the illumination of an ancient manuscript (used as a program prop in a close-up shot) to a copy or adaptation of a Toulouse-Lautrec poster, intended for set dressing to establish period. Dramatic programs frequently require ancestral portraits executed in the style of the period indicated and three-dimensional settings involve research from Corbusier and Frank Lloyd Wright to pre-history. Costume, wig, furniture and furnishing usage demands collateral studies in the past on matters sartorial, mobiliary and ceramic.

But it is also apparent that the art director cannot at once be an authority on art and design, ornamentation, architecture and techniques, and a practicing jack-of-all-trades unless he has the genius and stature of a Leonardo who, incidentally, since he occasionally designed and executed scenery,



The art director must understand all aspects of stagecraft and studio operation in order to supervise the planning and execution of settings.

costumes and spectacular effects for masques when his interest flagged in statuary, painting, invention or dissection, might have found in all aspects of television sufficient outlets for his many diversified talents. The modern artist, specializing in one or two fields only, does have the advantage of research libraries and their facilities so that, providing he has a good general background and critical ability, he is free to borrow intelligently from the voluminous material collected from the past. In production, he will have to do this often.

Besides a thorough grounding in research methods, in scenic design, costuming, architecture, history of art, and all theatrical and motion picture visual techniques, the art director must have more than a superficial acquaintance with the arts and crafts of photography, typography, sculpture (in both clay and papier-mâché), interior design and methods employed in easel painting. He must understand stage carpentry and construction, the mechanics of printing,

dressmaking, photometry (as applied to reproduction and enlargement) and facial make-up. If familiarity with many of these subjects is empirical, so much the better because the art director with actual experience in work processes is more likely to be labor and cost conscious than a desk designer who specifies with uncertain theory.

Some managements feel that the art director ought first to be an able administrator and that ability in leadership transcends facility in and knowledge of professional and trade functions; in a large corporation this concept, of course, makes sense since the head of the art department may be accountable for the activities of 50 to 75 or more employees; further, he is called upon to approve involved payrolls, different types of vouchers and to attend to personnel, budget and business matters. Generally, when the size of an art department requires a titular head other than a practicing artist, the assistant art director or chief designer becomes the actual operational manager. A better plan keeps the art di-



Set dressing and the proper placement of small props are essential to the creating of atmospheric settings.

rector in charge of the art and personnel aspects and provides a departmental business manager or assistant comptroller as watchdog of the budget and other financial matters. This finance officer or the art director must set up means of keeping all hands informed on current prices of material and general policy changes; either or both must approve bills, check invoices covering the damage or loss of rented furnishings and costumes and supervise large-scale purchases of raw stock. The art director ought to be conversant with time-keeping procedures in order properly to instruct section heads and to control inefficient practices.

The art director on the staff of an advertising agency or an independent "package" producer does not need to concern himself with employees from a personnel relationship or timekeeping standpoint, since he turns to designers on contract, free-lance artists in other fields, and to commercial scenic construction shops when he directs the execution of the physical production of a program. The staff man, however, must have more than an elementary understanding of trade practices, timekeep-



In supervising the various aspects of costuming, make-up and wig design, the art director must solve many problems imposed by program content. Note also the treatment of the floor and the use of air-brushing to subdue areas in the set. *Cyrano de Bergerac*, produced by Fred Coe, designed by Otis Riggs. NBC photo.

ing methods, and the costs of materials if he hopes to be in a position to "farm out" jobs intelligently on contract at savings to his principal. Under certain conditions, it is not unusual for an agency art director to schedule productions through the facilities of a network art department if he feels that the latter offers better services or prices than commercial scenic studios. When this is done, the outside art director follows through and approves every item on the labor breakdown and cost estimate sheet.

The foregoing suggests that somewhere in the art director's preparatory studies he should include a basic but possibly elementary business course. Unpalatable as this may sound to the artistically inclined, the essentials necessary are not as difficult to absorb as might be thought. The digesting of one or two works of college freshman level plus occasional discussions with businessmen provide an excellent start.

Must the television art director have first been a stage or motion picture set designer? Logically, providing he has a full, critical understanding of all the scenic crafts, no; actually, such a background is invaluable for collateral rather than direct reasons. A set designer, regardless of whether he has concentrated on motion pictures or the stage, develops a feeling for the dramatic, the effective, the presentational. The very nature of his work provides daily instruction in translating art forms into interpretative or expository material; and he is thoroughly aware of the fact that his output, unlike the easel artist's or the commercial illustrator's, is contributive rather than featured in its final usage. Indeed, experience in scenic design and familiarity with such of its elements as distorted perspective, spatial restrictions in normal production, or the psychological uses of lighting and color are certainly indicated as essential to the art chief's vocational background.

For those who are interested in a career in television art direction, the material on page 58 will be of value, but since most graduate schools of drama or art in universities list courses leading to an M.F.A. degree (in scenic design and allied subjects) in their catalogues, it seems unnecessary to describe a full curriculum here.

Organization and Personnel

Organizationally, the art director engaged in full-scale production clearly depends on the ability, skill and efficiency of supervisory personnel, section heads and "straw-bosses" of foreman level. The chart on p. 53



Exterior scenes require well-designed foliage and overhead lighting. A portion of a set for *Madame Butterfly* produced by Samuel Chotzinoff for NBC-TV with art-work by Carl Kent.

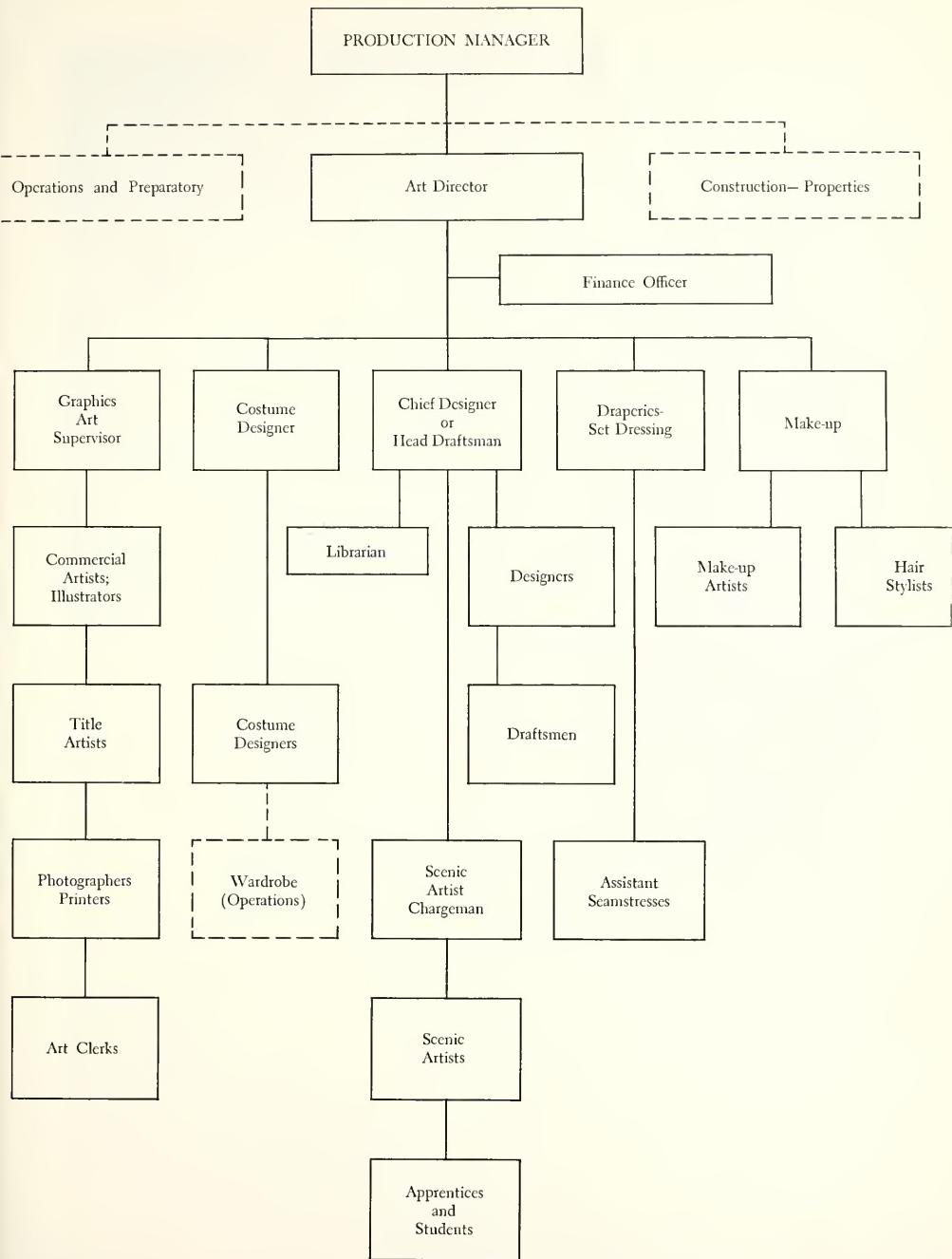
shows graphically the lines of reporting within the staff structure.

The art director makes every attempt to maintain a permanent staff over extended periods since he is aware of the fact that creative persons—artists, actors or musicians—ordinarily tend to function more smoothly and efficiently when each contributing specialist knows and understands the relative abilities of his co-workers. Because of present-day social and economic conditions there are few of the journeyman type artists who drift from job to job. Most professionals and craftsmen now prefer steady employment and are more likely to show interest, initiative and loyalty under a system which insures regular salary payments plus tangible group benefits such as retirement and hospitalization plans. However, television like the theater or radio does not maintain an even production level; fluctuations may be caused by the withdrawal of high-budgeted shows in the 13-week warm weather quarter, cancellations by the sponsor, or local or national labor or business emergencies. Since the work-load varies, the art director may not be able to build as complete a staff as he would like, but he can employ extra artists required during peak periods on a week-to-week basis, promoting senior men to regular status when increased operations permit, if their performance justifies such action.

The initial planning of an art department or the reorganizing of one already engaged in production is relatively simple on paper. The real difficulty lies in procuring properly trained staff members with the stamina and persistence to undertake and to solve the hundred and one perplexing production problems that are involved in daily television programming. Many of the required personnel come to television from the theater and motion-picture fields and, after a brief indoctrination, can usually employ their training and experience effectively.

Other staff artists and craftsmen with little or no "show business" background need only to apply techniques acquired in industrial and commercial jobs, and still others join art departments directly from schools and universities. When union rules do not restrict, the art director should encourage adequately trained art school graduates to serve apprenticeships in various graphics or crafts sections and even attempt to provide short orientation courses of an informal nature. That such action pays dividends is readily apparent during emergencies, vacation periods, or peak-load operational crises when irrevocable deadlines must be met. In employing young artists with talent, the art director not only strengthens his own personnel structure, but provides assistants for his senior men who are thus freed from the more routine tasks to devote their time to creative or developmental projects. These apprentice plans are discussed elsewhere and it is necessary here only to mention that the progressive trade unions are not in disagreement with the foregoing.

Mention has already been made of the difficulty of finding artists for employment in the art department. Since normally the supply of artists greatly exceeds the commercial demand, it might be assumed that personnel procurement in this field presents no problems; however, there are a few difficulties. In the first place, the end result, the product, of television artists has a somewhat ephemeral utilization: title artwork, elaborate advertising displays or intricate scenic decorations are on view before the public only for the duration of the program. Secondary usage is possible, but not under conditions that appeal to the artist, since his work may become an adjunct to a different setting or commercial, the design for which is credited to another. Illustrative matter that involves hours in careful execution flashes on the kinescope for periods

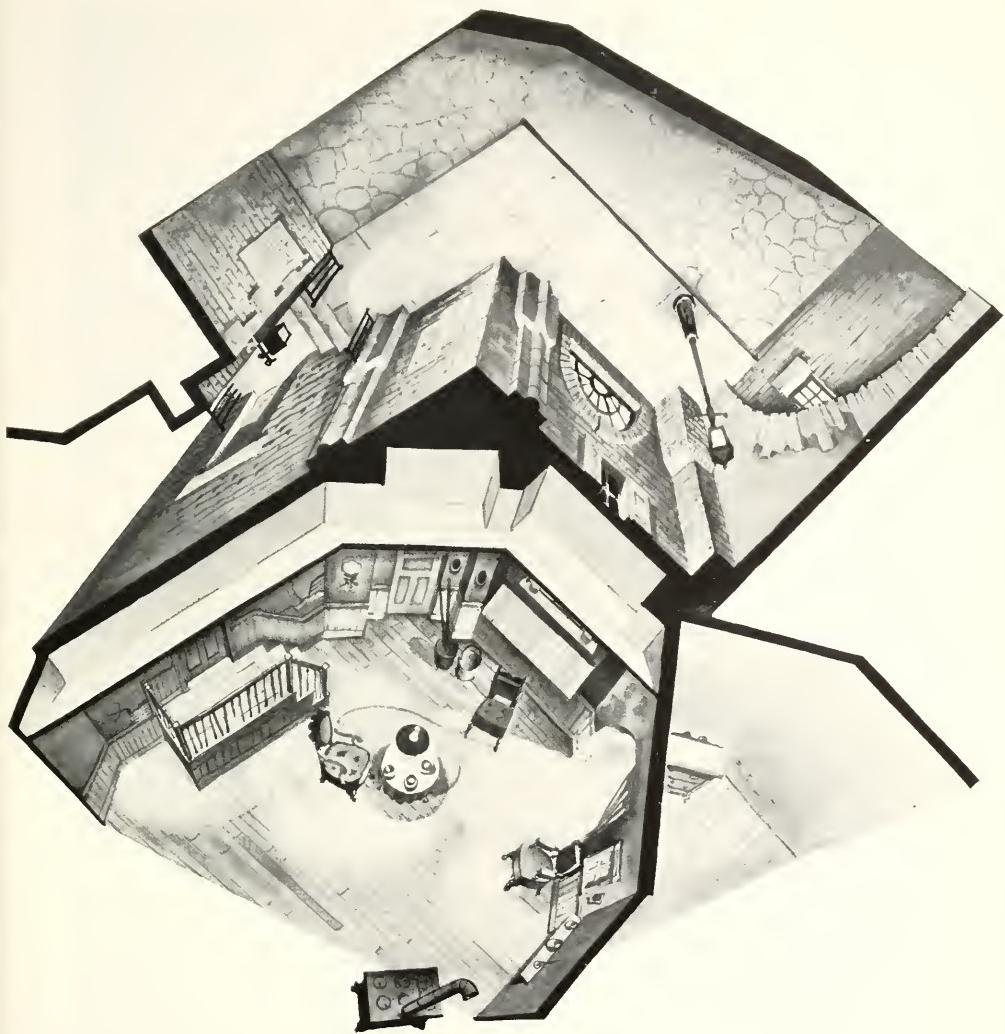




Although renderings are not normally provided for most programs, the art director and designer present perspective sketches for client approval on initial productions. A design by William Craig Smith for *The Weather for Today*, a Lux Video Theater play, CBS-TV.

of only three to six seconds; or pictorial drops, often painted with great skill in photographic verisimilitude, are often arbitrarily "painted out" right after use for some lesser scenic effect. Even though the television artist is paid, and paid well, for grinding out such literally fly-by-night efforts, his sense of values is frequently upset at the rough and ready treatment his work gets in the broadcast medium. But, of course, television production is a show business activity and such rapid turn-over methods are indicated. The industry cannot readily change its spots, so the individual artist must do so, or adopt another career.

Actually those designers, craftsmen, or painters who have come to television production from the theater, motion pictures or stock companies have little difficulty in adjusting themselves to a system that demands and then destroys, perhaps because the knowledge that the classic, history-making settings of Urban, Bel Geddes and Robert Edmond Jones were also relegated to the boneyard of obscurity and burned to blackened bits on the Jersey marshes offers some consolation. The television art director, in employing capable artists from other fields, must take time to point out these conditions to the inexperienced, or be prepared to handle a constant stream



An excellent rendering of a TV scenic design by William Craig Smith for a Lux Video Theater program. Sets are shown in bird's-eye perspective to orient producer and construction department.

of resignations and replacements. Fortunately, there are many artists who, once adapted to the production rhythm, like the pace and excitement of programming. They soon learn from experience that their work is not intended for the calendered-paper "class" magazines, and that the professional, holding something in reserve for spurts of creation under stress, does not regularly turn out masterpieces.

Research Facilities

Whether the art director has a large or small operation, he will soon discover after intensive work on a few productions that neither he nor his assistants have sufficient time to visit libraries or museums in order to do necessary research on various art assignments and projects because of the constant pressure of meeting deadlines. As in motion pictures, a literal realism is normally essential in television and, while most scenic and costume designers are trained in the memorization of definitive, period or architectural details, they cannot, like stage artists, simplify, stylize or "fake" in the broad strokes permitted in the theater. Accurate information must be available. Scenes in programs, especially in plays and operas, are set in locales that extend from Maine to Moscow; and such oddly assorted questions as, "What was the uniform worn by a colonel in the Confederate Army?" "How many kinds of articles did Abe Lincoln sell in his general store?" "What general style of furniture should be used in a middle-class Russian interior of 1855?" require prompt answers before design and execution can be started.

To conserve the time of his designers an art director should plan on building a library and a picture file even though initially he may have only limited funds for such a purpose. Books that concentrate on

specific aspects of art, architecture, dress and accessories are expensive, but clippings from magazine and newspaper supplements are not, and provide an excellent digest of valuable source material. True, details in much of this information have been romanticized by illustrators and advertising artists, but for the designers' purposes these stimulating, over-colored reproductions of drawings and paintings aid in the development of sound presentational ideas. After all, most illustrators are interested in painting living backgrounds that reflect manners and mores, rather than in creating museum displays of archeological accuracy. But even discounting the value of drawings, there are the many published photographs of undoubted authenticity picturing both domestic and exotic locales, costumes and customs, readily available in popular magazines, such as *Life*, *The National Geographic*, *Fortune*, and others. A few months' collection of assorted back numbers of such publications and the devising of a simple, workable file system provide the start for a research section that will grow in usefulness with each accession. For some time after its inception, the "morgue" will contain collated but unrelated clippings and cannot be expected to replace books and reference works on particular subjects. Essentially, the file is a repository of general informational material clipped for its practical application to production activities, and an adjunct to the library.

Only the largest art departments can afford the luxury of a special employee whose duties include maintaining the library and the picture morgue so, as a result, these responsibilities are normally assumed by the art director and secretarial assistants who devote part of their time to collating material marked by the art chief or by designers or draftsmen. The circulation is informal, and each artist who borrows from the file is expected to make a prompt return, but the

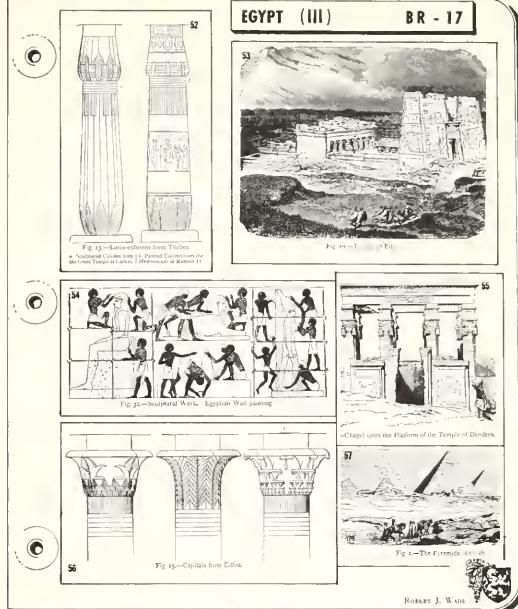
acting librarian must keep a constant check on loans to avoid losses of valuable research pictures and marginalia in the form of thumbnail sketches added by designers to clarify details. In practice, since individual clippings are fragile and easily misplaced, cut out material is pasted on reinforced pages of 9" by 12" loose-leaf blankbooks which are appropriately titled and numbered on the backbone. Labels must be removable because, as the collection grows, illustrative matter will be articulated and redistributed in other folders, and new descriptive tabs will be necessary. For example, at the very outset of assembling file material two books, respectively titled *North America and Foreign*, will serve for a short period. If care is taken to keep matter related in subject and date pasted on one page, the entire page can later be removed and included in a sub-classification. Thus, *North America* will ultimately extend to cover a broad field:

North America¹

1. 15th to 18th Centuries
 - a. General (and pre-Columbian)
 - b. Early exploration (Spanish, English, Dutch, etc.)
 - c. Early Colonial
 - d. Middle Colonial
 - e. Late Colonial
2. American Revolution
3. United States
 - a. Domestic Architecture—Neo-Classical Revival
 - b. Etc., etc.

It will readily be seen that picture files grow rapidly, and if carefully maintained for even a short time will yield an extremely use-

¹ Because the character of decorations and costumes is more important to a designer than historical accuracy, this chronological and geographical order allows for considerable leeway between arbitrary "periods." Any similar system can be applied.



ROBERT J. WADE

Related research material, filed in loose-leaf notebooks, is invaluable to art department personnel.

ful collection. It is recommended that costume and set-dressing information be included along with material intended for scenic research because drawings or photographs often contain incidental matter that may be germane to the project being studied. Since an untrained person, if left to his own devices, has a tendency to clip pictures that appeal to him as "pretty," it is well if the art director and assisting designers mark each proposed clip with a pencilled circle, plus a notation of the subject matter; e.g., Tudor gent.w/tp mant. & wpanel; under Eng. 16th C. (Tudor gentleman with view of typical mantel and wall panelling of period; file under England, 16th Century material.) Experience in the past ten years has indicated that the possession of a picture morgue saves an art department and its employees countless hours, and art directors who wish to

record the visits of their staff members to public libraries (listing the amount of time consumed) can use this information to justify picture file or book expenditures to their managements. It is interesting to note that a designer was hired by a New York station as assistant art director a short time ago because he had assembled his own voluminous art file of over 10,000 clippings.

It has been indicated that art reference books are expensive, especially the architectural and detailed costume works, many of which are published abroad; however, second-hand copies are available, and recently reprint houses have published cheaper editions (particularly in the interior decoration field)

that are thoroughly satisfactory. As the acting librarian has opportunity, he can secure and file travel folders, brochures issued by manufacturers, steamship lines or resort literature, all of which can be procured without expense.

In addition to maintaining a research picture morgue, the art director also should file photographs of sets and details of sets from principal programs, as such records are of value in discussing new shows, especially when producers are groping for a production style. Also record photos, if they are of good quality, are excellent promotional material for folders and booklets which present facilities information to clients. Since the head

TV ART DIRECTION: BASIC REQUIREMENTS

- A. Personal. A thorough and sincere interest in all art forms, especially those of a tri-dimensional or craft nature; creative ability for "making things" rather than painting or drawing; a tactile sense; a disciplined imagination.
- B. Education. As general as possible, with some concentration on history, literature and drama. All available courses in arts and crafts of high school or college level. Active participation in school dramatics (from box office to backstage) recommended.
- C. Professional Training. Two to three years, art school, university graduate school of fine arts, drama, architecture, or concentration on scenic and costume design with extra work in the above.
- D. Extra-Curricular. Two or more seasons in Summer Stock or at non-professional Little Theaters as assistant scenic designer, painter, or technician. Outside reading, active participation or direct observation in as many other production crafts as possible. As much auditing should be done as time permits in courses devoted to the psychology of advertising, stage and display lighting, and the business of advertising.
- E. Experience. Several years of actual experience in motion pictures, the theater or in television at creative or supervisory levels are indicated before entering the art direction category as assistant or chief.

designer or draftsman files all operational records, the art director needs to concern himself only with special photos of more than usual interest. He should also keep photo copies of top-grade designs and sketches. Occasionally some of the outstanding sketches, particularly those rendered in color, can be matted, framed and presented to the client for office or conference room decoration. These "by-products" of the industry are often very decorative and their proper distribution suggests a unique and tangible way by which an art department advertises its services.

Small Station Operations

In television stations situated at a distance from metropolitan or other production centers, the art director will find his title, but not his position, a nominal one. If the station operates only one or two small studios, he may discover that he is the art department and that, in addition, a few program or production duties are included. And because the local station usually keeps its live originations to a minimum and its production staff small, the art director must be even more versatile and prolific than the network or agency graphic arts chief. Like Pooh Bah in *The Mikado*, he will have many jobs—designer, painter, costume-finder, title artist, and possibly property man, make-up stylist and assistant director. He will not have, for some time perhaps, the high-pressure atmosphere surrounding the production of big commercial shows or problems incidental to the employment of union labor. In fact, since he executes all the work himself, he is his own taskmaster and his only labor troubles occur when the flesh is weak. He and an occasional assistant perform all the functions listed and analyzed in the following chapter. The experience gained by operating under these conditions is invaluable if the art director will

regard it as a preparatory course leading to a more important post in network or agency.

While regional stations do not ordinarily produce large-scale programs, there are many opportunities for certain types of activity. Network programs are scheduled to allow free "local time" and these segments must be filled, preferably by commercial shows sponsored by local retailers or if not, by sustaining programs at low-budget level. As a result, the small station is not likely to produce multi-scened dramatic shows or elaborate musical revues, but rather novelty quiz programs, domestic science demonstrations, hobby, news, house orchestra or simple children's shows that day-to-day, "across the board," require simple and economical staging. The extension of programming into the daytime hours has of course substantially increased production.

However, there should be no implication here that an unassisted artist-factotum can handle over three or four hours per week of live programming. Even if most of the settings and artwork are used recurrently he will do well to provide the essentials for this program load. Nor can one artist expect to bring an equal professional competence to such unrelated functions as scene painting and photo retouching unless his background is more eclectic than is common. Along with other art directors in early television production, the writer designed and executed scenery and general artwork for an average live output of $3\frac{1}{2}$ hours¹ weekly, unassisted except for part-time stagehands and make-up artists. Besides the daily chores of designing settings, costumes, furnishings and graphics work, there were collateral supervisory duties, not to mention attendance at production and other meetings. Since nearly every new station will go through a similar initial

¹ Programs included such multi-scened productions as Sherwood's *Abe Lincoln in Illinois* (9 period sets), *Twelfth Night* (5 sets), dramatic serials, operas, etc.

period of limited programming with a small production staff, special material helpful to the art director who must manage to be many kinds of artist at once is included in the following chapters, together with analyses of various job functions. Although staging several hour, half-hour and 15-minute shows per week almost single-handed sounds difficult, and would seem to require on the part of the artist a Jekyll and Hyde personality, the multifarious tasks can be accomplished by pre-planning and by simplifying. If the art director, as designer, lays out a complicated setting he can subsequently, as scenic artist, eliminate or alter elaborate details when time runs short or, as set dresser, substitute a suitable painting in a frame of the right period for a French tapestry if the latter is not readily available or too expensive to rent. As a matter of fact, if the pace were not so deadly and the pressure so great, the small station composite artist might indeed in his self-sufficiency create economical and effective settings and develop original ideas and successful technical short-cuts. But as programs increase in complexity and as additional station time is sold, one pair of hands cannot suffice. As programming expands, so also the art department.

Clearances

The production art director must always remember one basic fact relative to the reproduction of material on television: he cannot broadcast the property of others unless he has (a) received full permission from an authorized source, or (b) paid a fee, license or other consideration for usage, or (c) purchased such material outright. The mere possession of art work, illustrations or other copy does not constitute the right to publish, reproduce or broadcast matter. For example, a producer requests a slide of the Statue of Liberty over which he intends to impose

program titles. There are no restrictions to the dignified, tasteful use of this work, and the art director may freely photograph the statue and process a print for slide purposes. This is likely to be costly if, for instance, he is operating at a point removed from New York. If he checks his files or those of a library he can surely find many magazine reproductions of the statue, but he will also find that nearly every one is copyrighted—either by the publication or by photographic agencies like Associated Press, Ewing Gallo-way, United Press, et al. Thus, even though the subject appears to be in the public domain, individual photos (or reproductions) are the property of publishing or service firms which are not in business to feed free material to television.

Photographs, then, must be purchased by the station or, more properly, a license must be secured to reproduce a photographic print supplied by the owner or agency. This license fee, which can vary as to amount depending on the type of program—local, network, commercial—can range from \$6 to \$80 for a one-time usage.

Of course, there are sources of free photographs such as information and travel bureaus and chambers of commerce. Here only permission to reproduce is required.

The art director should consider the following points:

1. Do not photograph, copy or photostat any published material for broadcasting purposes unless written permission has been obtained to reproduce it.

2. When mock-up books or newspapers are used, titles should be fictitious. The same applies for names of firms on signs or store fronts in street scenes and products about which some derogatory comment is directed.

3. While news photos of individual persons and crowds may normally be broadcast without problem on news shows, photos of this type should not be used on dramatic or

comedy programs as props or set dressing. Such usage may violate rights of privacy.

4. Certain framed reproductions of paintings may normally be employed as set dressings, but may not be used as backgrounds or rear projection material, especially for commercials. Check copyright information on all such reproductions.

5. Actual U. S. bills, coins or uncancelled stamps should not be photographed or processed for any usage. If real money¹ must be employed (as in a dramatic program on counterfeiting), special permission to process should be obtained through the F.B.I. Cancelled stamps may be shown on the screen, but they should be enlarged or reduced in size. On stamp collecting and numismatic programs it is usually best to alter the size of any reproductions. In general, avoid copying of currency, revenue stamps, government type checks, etc.

6. Before purchasing settings or costumes at "bargain prices" from theatrical shows that are closing on Broadway or the road, make sure that the vendor has the right to sell and that there is no lien or attachment on the equipment initiated by the original supplier.

7. Secondhand painted drops or set-pieces purchased from a theatrical production company should be accompanied by a waiver from the original designer if it is planned to use the units without alteration. It is sometimes possible for the designer to collect another fee covering such secondary usage in another medium.

The Unions

The business of television broadcasting grew too rapidly to train specialists, and station and network managements were forced by circumstances to take their art where they could find it. In the East, stage and costume designers, scenic artists, diorama workers, make-up people, wardrobe attendants, and property and wig makers were readily available by the hour, day or week. In Hollywood and its environs, artists in similar classifications from the pictures could as easily alter their occupations slightly to take up television chores in the origination of production adjuncts. Motion picture animators and other highly specialized artists were prepared to supply many of the new and unusual requirements of visual broadcasting. In these two show business centers, the art director, harassed by his own management on one hand and by advertising agencies on the other for constant acceleration in all divisions of production effort, had no choice except to solve his personnel problems by taking immediate and peremptory advantage of the substantial, highly specialized arts and crafts pool of trained, indoctrinated, creative men and women who, having successfully made a name for themselves in the theater without achieving any reasonable financial security, began even in the early 1940's to regard television's week-after-week production schedule and consequent regular paydays with a more than speculative eye. In order to execute settings and furnishings for dramatic programs, quiz shows, musical revues, and the complicated and heavy live commercials that were, in the early days of television considered effective advertising, the art director, faced with mounting a new half-hour or hour program almost every week or ten days, started to draw from this pool in no small numbers. With the theatrical workers came the theatrical unions.

¹ According to network attorneys, the interpretation of the government ruling is that there should be no permanent record made of U.S. currency. Thus, while bills and coins may be shown in a live program, they cannot be pre-photographed for such purpose, nor can the program be filmed ("kinescoped").

Basically, the conditions now imposed by theatrical craft unions grew from theater management exploitation. Show business trade unionism is a complicated study and even a brief exposition here would require both a detailed history and the presentation of material beyond the scope of this book. But a few simple illustrations should indicate ramifications and extensions. Since the days of the late Renaissance when the theater first moved indoors, the business side (if one may call it that) of production has been based on speculation and public acceptance of offerings. The record will show that many attractions which seemed potential bonanzas to hopeful producers subsequently "failed to please the audience,"¹ "were quickly withdrawn from the stage,"² or "were nixed by critix."³ Until about forty years ago, when "posting bonds" became mandatory, managers could abscond with meager box-office receipts, leaving a company of actors, stagehands and musicians stranded in an obscure town far from New York or from their homes. During the same era, stagehands were considered as little better than itinerant vagabonds and in certain cities they were paid fifty cents or less per day to unload baggage cars, work in the box office, run the two daily performances, pack up, and load on at night. When the local house was dark, they were unemployed. Scenic artists in stock companies would paint several settings a week for an extended period without pay, waiting for the management to meet expenses, only to find that promises ended in a complete closing. The actors and local stagehands were also wholly or partly cheated of wages due. Attachments on cash door receipts did little good, since local merchants or the sheriff usually got there first; besides, in most cases, there was no money to attach. In

metropolitan areas, producers worked actors and stagehands around the clock, rehearsing under sub-normal conditions in unheated theaters, and arbitrarily made labor "calls" that prevented employees from returning to their hotels or homes for reasonable rest.

These and many other conditions the theatrical unions attempted to correct. By 1912 workers in New York and in most principal cities were well organized by the potentially powerful International Alliance of Theatrical Stage Employees (I.A.T.S.E.), an A. F. of L. union with far-reaching tentacles. This union, whose many classifications and "Locals" subsequently included the Hollywood motion picture crafts, successfully organized on a national basis not only stagehands (property men, carpenters, electricians) but motion-picture theater operators, wardrobe attendants, front-of-house personnel, and eventually radio studio set-up men, make-up artists and many, many other groups of theatrical or other show business operatives. Wages were increased, tight jurisdictional lines were established, and arbitrary sets of conditions were imposed on the employer.

The claim is now made that the shoe is on the other foot and that this union, with its rules and "laws" demanding conditions involving immutably set time schedules of working hours, overtime pay for performing certain functions, pay upon pay for others, and the establishment of arbitrary jurisdictional lines, is the exploiting agent. Much criticism, especially in television, has been directed against the various I.A.T.S.E. groups by both the networks and the advertising agencies. Dissension has been traceable to two causes. First, the misunderstanding by agency representatives who, coming direct from radio production, had no way of measuring the essential contribution of staging employees, and who consequently considered the top technicians as little better than "belly-luggers." And second, the Locals,

¹ Ben Jonson, writing of Sejanus, 1603.

² Laurence Hutton, *Curiosities of the American Stage*, 1891.

³ Attributed to *Variety*.

in an effort to climb on the television bandwagon and to employ members in good standing, frequently erred by assigning inferior workmen and superannuated brothers who of course received full-scale wages and all benefits despite the protests of management. Although the art director's relationships with these various I.A. unions may be fairly indirect, it is important that he acquaint himself with details of conditions and wages and the terms of contracts applicable to his station or other organization.

Jurisdiction over scenic work, which includes set and costumes design, scenic painting, miniature- and diorama-making and allied fields, is claimed by the United Scenic Artists, an affiliate of the Brotherhood of Painters, Decorators, and Paper Hangers of America, an A. F. of L. union. Hence, strangely enough, the three Locals in New York, Chicago, and Hollywood are not essentially theatrical labor units. It is with this group, however, that the television art director will have direct dealings. It is even likely that the television art chief will himself be an active member of this particular union and, as a result, will frequently find that he occupies a somewhat anomalous position when difficulties between management and the Local arise. Again, the scope of this book does not permit a lengthy discussion of labor relations, and without an extension to encyclopedic proportions I cannot list here the many processes of negotiations or the ways and means of settlement. Fortunately for both the network and agency art director, the management to which he reports usually provides a well-organized labor relations department (or at least a staff attorney experienced in labor affairs) that normally arranges contractual matters or attempts to settle extra-contractual conditional problems as they occur (and occur they do, usually at the peak work-load period) with the union's business manager (or agent) and its board of officers.

Most conditional and minor jurisdictional problems develop from areas that are not covered specifically by contract. For example, a contract may indicate that a certain station will employ as scenic painters only members of a specified Local at \$4 per hour for an 8-hour day; that overtime, at the rate of time-and-a-half or \$6 per hour, will be paid for all hours worked daily in excess of eight, etc. These are definite, carefully spelled-out commitments that offer no great problems in interpretation or solution if disputes arise.

However, all commonly accepted trade practices, precedent-making actions and the entire rules and by-laws of a union cannot be written into its various contracts with operators. For some years in the theater it has been customary for scenic artists (or designers) to paint or to prepare glass slides utilized in front or rear projection. Perhaps in television, station management may feel that this function should be handled by a new, special department, since certain technical problems are involved; or by a photographer-artist who understands both the limitations of the electronic system and its photometric requirements. If the scenic artists, say, hold out for their "right" to control slide-making, a work stoppage can result. Or, as a compromise prior to settlement, all slide operations may have to be temporarily cancelled, while the programs suffer in effectiveness or quality.

Again, a union board of officers can, like the King in Alice in Wonderland, invent new rules that seriously affect plans or schedules based on a presumably firm contractual foundation. Or it can, under certain conditions, attempt to limit, say, the size of hand tools or the quantity of paint that a scenic artist may carry in a galvanized pail, or the amount of work that can be performed with air-brush sprays. These are "protective" measures designed by the union to insure full employment and to counteract the obvious

results of a too efficient utilization of labor-saving devices. But ex cathedra prohibitions emanating from the inner board rooms do not necessarily stick. Union and management representatives normally have opportunity for many meetings and discussions; and experience has indicated that both can be amenable to reason and argument. When conditional or jurisdictional cases occur, the art director must be prepared to brief labor relations counsel on matters at the operational level. If the art director is a union member himself, he can at least report facts and figures without editorial comment; if he is not, he can work closely with management in all attempts to effect settlement.

Under certain conditions, the art director is called on to solve minor union problems himself during emergencies or threatened work stoppages. Since these skirmishes normally result from differences of opinion on conditional or jurisdictional matters, simple adjustments, arranged after conference with a union business agent, usually suffice as solutions in individual cases. However, when the art director or any other company representative is forced by circumstances to change time schedules or alter work processes in order to maintain operations, he should be very sure that his action does not affect relations between the union or other unions and sections or departments of other operators,

and does not in any way establish precedents that may subsequently become costly contractual additions. A series of private "deals" with union representatives leads both the art director and his management into a dubious and complicated position and often prevents an organization from joining with other stations or companies in maintaining a solidarity in negotiating with the unions.

In metropolitan areas, practically all employees of television art departments are organized, and because of this the art director must add to his other responsibilities the task of keeping abreast of all union matters, even though his work may be more supervisory and critical than administrative. He must always be conscious of the fact that in dealings with the presentational crafts unions a strained or a tactlessly handled situation can result in non-delivery of production mountings, and that a consequent program cancellation is highly undesirable from both the public service and the financial aspect. It is for this and allied reasons that the brief foregoing paragraphs on the trade unions are included in a book which, in concentrating on the production art processes must nonetheless be realistic enough to inform the reader about parallel, practical matters concerned in getting work done. To omit certain directional guideposts is to present less than the true picture.

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Note: No attempt can be made here to list works on Interior Design and Decoration, Furniture, Architecture, General Drawing and Painting and the various allied crafts. The art director and designer, however, will have little difficulty today in finding excellent and comprehensive texts of high quality at all price levels.

SET DESIGN

THE ILLUSION OF STAGECRAFT

DOWN through the ages, the designing of scenery, of itself, a mere contributive adjunct to drama or pageantry, has fascinated many artists of genius as well as those facile draftsmen who possess a kind of charlatan's skill in effect and illusion. Lee Simonson and other historians of the theatrical have retraced this salutary interest from medieval times, when mystery plays required realistic if sanguinary properties and production mountings, back to the more formal period of the Greeks with its masques and machines. But it was during the Renaissance that the scenic artist found full expression in the elaborate and flamboyant masques and spectacles. In Italy the profiled canvas "wing" was developed and over a period of some years several generations of one family, the Bibbienas, were active from cradle to grave in delineating startling inventions in scenic perspective. Artists now known for their less ephemeral works and revered as Old Masters turned from decorating a papal palace or completing a Last Supper to devising costumes, settings and special effects for princely entertainments. Inigo Jones, an Englishman,

{ 66 }

returned home from observation in Italy with sketchbooks crammed with notes to inflict on native and later American theater décor an opulent scenic style that was to persist for nearly 300 years.

The artists' predilection for scenic design is readily explainable. The canvas is large; the medium is dramatic; the matter is fictional, fanciful, allegorical, or historical in a bold, romantic manner; the accent is on effect, the *trompe l'oeil*, the quick impression. The artist creates, somewhat divinely, in three dimensions, using for media the actual or the near-actual, rather than pencil or paint, and is amazed at the microcosm he has wrought: he controls the sun and the moon (or at least the light therefrom), the twinkling of the stars, the fall of snow and the effulgence of nature. Any inexperienced Little Theater member who arranges his first twilight by dimming out the "pinks" and bringing up the "blues" in the X-ray borders immediately loses all humility and considers himself on a par with the Olympian, if not all other gods. Indeed, the compulsion to build in the round and to sculpte with colored light has always at-



A stylized set executed in a cartoon technique in dark gray over a very light gray background with restricted tonal areas. Designed for Herbert Graf's production of *The Barber of Seville*.



A sketch of a stylized setting showing the use of "practicable" rock formations and small set-pieces against a neutral cyclorama. Designed by Herbert Andrews for the Kraft Television Theater.

tracted those artists and architects who own to a sense of drama and a feeling for theatricality: in modern times, Benois, Picasso, Pogany, Benda, Bragdon, Roerich, Déain, Poelzig, Dali and many others. And this compulsion also attracted those artists who wished to be professional stage designers.

Stage Design

It was not until the 20th Century, however, that scenic design was recognized as a specialized field, first in Europe and later, shortly after World War I, in America. Hitherto the scenic artist had concentrated on the painting of his drops and wings and had permitted other craftsmen or stage managers to select wardrobe, furnishings and décor; leading players, for example, wore costumes designed by a dozen different modistes in as many styles. Lesser actors and supernumeraries were garbed in anachronistic "stock." Scenery and set-pieces rather than the actors were lighted. Settings were ordered categorically by conventional description: "Light Fancy" (interior),

"Rocky Pass," "Prison," or "Plain Kitchen." Scenic artists, except on very elaborate productions, worked from elementary floor plans and adapted details and stencils from stock catalogues with little thought of creating an aesthetically unified *mise en scène*.

The European theater, influenced by the writings and projects of the theorists Adolphe Appia and Gordon Craig, gradually broke away from this somewhat shoddy tradition. By 1910 the productions of Max Reinhardt and of certain continental "Free Theaters" began to attract the attention of American artists who saw for the first time in the modern theater a synthesis of art forces: of color, form, light, plasticity of design and decoration related not only to each other but to the actor and the intent of the script. And in America producers like David Belasco developed mechanical and technical devices that would make the new stagecraft possible and practical. In New York in the early Twenties, coincidental to and parallel with conditions brought about by a virtual theatrical renaissance, a small group of designers, alumni of the experimental theater movements, imbued with

the spirit of continental stagecraft, started to sell their ideas and services to the commercial theater. The story of their trials and triumphs as pioneers has been told. It will suffice here to indicate that these artists in their application of Kenneth MacGowan's three-point formula for functional and artistic scenery, "simplification, synthesis and suggestion," laid the groundwork for modern practice on the stage, as well as in the films and television and, in fact, created a new specialized profession.

Design in Films

In the early movies, scenic design and general art direction (when it consciously existed) were taken over by studio functionaries, stage carpenters, scenic artists of the "center door fancy" school, and even actors or directors. Commercial success subsequently brought experts, architects and decorators into the industry but, again, it was not until after World War I that art directors like Cedric Gibbons and William Cameron Menzies started to plan film incantation with taste and imagery. German "art films," produced under the influence of the new theater movement, although not technically as slick as Hollywood's 1920 best, nonetheless served as stimuli and introduced many production and camera usage innovations such as the oblique line of movement (rather than conventional stage action), the subjective camera, and stylistic lighting and settings, of which the most extreme type were seen by American audiences in *The Cabinet of Dr. Caligari* and *Der Golem* (released, 1920).

The basic conception rather than the means and methods of creating film backgrounds is important to the television artist because, radically, the two media have problems which, if not common to both, are closely related. Television may be described

as essentially a "photographic" process. Like the motion pictures, it transmits images of views or "scenes" (in quite a different technical way) that in order to be introduced into either system require two fundamental elements: light and physical surfaces to reflect it. The designer should seriously investigate the essentials of both still and motion picture photography, not only to gain a knowledge of techniques applicable to video production, but because films and film-making will play a major role in the broadcasting industry.

Present-day Hollywood sets with their skillfully arranged realistic detail and elaborate plaster decorations could provide optimum requirements for live studio television if they were operationally and economically practical. But they are not.

Television Scenic Design

The purpose of scenery in any presentational medium is definitive. Sets provide or suggest a suitable background for action and their quality and artistic value are measured solely by their appropriateness. Scenery, in itself, is not always "beautiful." A setting designed for a Central Park West apartment scene may be aesthetically satisfying *per se*; another, created to simulate the interior of a lived-in cold-water flat, is basically barren and ugly. But both settings are made in the same manner—often designed by the same designer for a single program—and all else being equal, the cheap, walk-up apartment set may be the more artistic of the two if its suggested atmosphere creates the right mood or adds to the dramatic impact of the scene. Scenery, then, is interpretative. If a musical revue sketch is gay and zany, the set that backs the performers is of the gayest and the zaniest; if a Shakespearian tragedy is primitive and somber, so is the setting.

In theory, design categories in television production are readily classifiable collaterally with program types:

A. **UTILITY** (Non-representational scenery for general background purposes) used in:

1. Newscasts
2. Interviews
3. Forum programs
4. Special events—political commentary, weather forecasts, announcements or appeals by officers of charitable organizations, etc.
5. Certain religious broadcasts
6. Musical shorts (see Abstracts, below).

NOTE: Utility sets, although fabricated from scenic elements, are not true settings in the accepted sense. If a news commentator is shown sitting at a desk backed by draperies or plain wall the effect may be that of an office or newsroom expressed in minimum terms—in other words, less than life. But when non-essential properties and set dressings (the elements of illusion) are added to such a backing to suggest a definite locale, the set becomes representational.



As in the films TV set designs, especially of exteriors, must be carefully planned for shots from unusual and unorthodox angles.

B. **REPRESENTATIONAL**, used in:

1. All programs in which the story or plot content is of a fictional nature
 - a. Dramatic shows, plays and serials
 - b. Operas and musical comedies
 - c. Ballets (see also Abstracts)
2. Documentaries
3. The majority of commercials
4. Certain educational, domestic science and other programs involving demonstrations
5. Children's shows (see also Abstracts)
6. Specific productions also covered under A. 1-6, above.

C. **ABSTRACT OR STYLIZED**, used in:

1. Variety and Vaudeville
2. Musical revues
3. Short musical programs of unconventional format
4. Ballets and extravaganzas.

But, practically, scenic design, like all creative functions, is not so simply codified, since Script Content, Style and individual artistic expression or Technique must be considered. Too, there are different ways



A simple realistic architectural backing for an isolated shot in an NBC-TV Philco program. Note the lack of busy details.



Realistic scenes are frequently given the illusion of greater depth through the use of false perspective. Note the painted molding and distorted picture.

of staging the same subject and, critically speaking, one method cannot be said to be superior to another, provided the final effect is one of unity.

The Script Content of a program (dialogue, "business" and description) normally determines the path the designer is to follow in developing settings, and it is mandatory that he become thoroughly conversant with the writer's and producer's interpretation and intent. Much of the information the designer needs must be painstakingly extracted from the script, as the television playwright has neither the literary inclination nor the time to pen verbose forewords and descriptions in the manner of Shaw and Barrie. Set requirements are usually expressed briefly:

- a. Miss Bishop's room.
- b. A corner of a cheap restaurant.

c. MacGregory's town apartment.
Shot #1: Door to hall
Shot #2: Lower portion stairway;
pick up Gertrude.
Etc.

Or, in many instances, the scenes may merely be numbered in the mimeographed script by the producer who refers to the original master copy for details. Because these details can be variously interpreted, the designer and producer must see eye to eye before the former can begin to visualize program settings. Even though it is the producer's responsibility to indicate in lists or by thumbnail sketches precisely what he requires in the nature of settings, the designer, in the process of developing these rough notes into unified and complete production mountings, must check and recheck the script for "business" involving scenery, props or décor, entrances and exits, quick transitions and other incidental information that because of the pace and pressure inherent in programming is not passed along to him in an explicit manner. Script content, then, provides essential information,



In this comedy setting for a Frank Sinatra program, William Cecil, CBS designer, depends entirely upon painting techniques.



Two shots of a slum exterior treated realistically. Designed for the CBS-TV program Crime Syndicated by Kim Swados.



Two sets designed by ABC-TV Art Director James H. McNaughton, for Paul Whiteman programs. Left, a stylized background against a neutral cyclorama provides rhythmic background for *Rhapsody in Blue*. Right, scenery for extravaganzas often approaches the complexity of film settings.

hence a determination of type and usually but not always of style.

Style, in production, is a manner of staging applied by the producer and designer either to achieve a unified result or to increase dramatic and presentational effectiveness. Styles in scenic design are as diversified and as confusing as Hamlet's catalogue of dramas, chiefly because in a tri-dimensional medium involving actors and performers (whose appearance and activities cannot be fully controlled) designers must compromise on hyphenated-types rather than adopt pure styling methods easily employed by the easel artist or sculptor. Nonetheless, a partial analysis is possible, applicable to production design:

A. NATURALISM—Usage of scenic elements, properties, costumes and décor that are literal, real and lifelike in all particulars. The style of most film production.

B. REALISM—Somewhat the same in intent, except that details are simulated or suggested, permitting employment of the artificial (such as painted scenery, impasto jewels and ornaments, inferior fabrics

treated to appear rich, etc.).

1. Selective Realism—The partial employment of realistic details in such a manner as to suggest rather than to copy nature, emphasizing those that are meaningful and simplifying or omitting non-essentials. The normal style of legitimate play production and of certain foreign-made films.

2. Implied Realism ("Simplism")—Selective Realism reduced to its lowest terms: one tree suggests a forest, one door a room. Frequently indicates usage of enlarged but realistic-appearing properties or fragments of settings, such as a giant-sized cross and candelabrum to denote a church interior. Rarely effective in a photographic medium, except as used humorously in revues.

C. EXPRESSIONISM—Basically, the attempt to interpret the meaning or intent of the script by the "stylization" of production details; the distortion of the real or the actual to point up characters' psychological actions and reactions. Often accomplished by rational means in realistically staged programs



Two other sets designed by Mr. McNaughton for Paul Whiteman programs. Left, an impressionistic setting for a TV ballet. Right, this set depends upon false perspective, floor painting and a stylized background in a Parisian number.

but generally, even when humorously or lightly used, dependent on the perversion of accepted form. For example, to show the warped character of a financier, his top hat, the office accessories, windows, doors and other portions of a setting might be twisted and convolved to give force to a scene staged against this décor.

1. **Constructivism**—the stripping of all superficial surfaces (and decorations) from scenery, platforms and principal properties, leaving only structural elements, which are usually distorted. A "machine-age" style popularized by Russian designers (c. 1925).

2. **Neo-Perspectivism**—The conscious use of distorted perspective as a style, rather than as a means to illusion.

3. **Others**—Certain drawing or painting techniques are in themselves stylistic, such as cartooning or rendering in a flat-toned, "posteresque" manner and may be said to be expressionistic sub-styles since the results are expressive of purpose and certainly only near-real, regardless of subject.

D. SYMBOLISM—The employment of concrete objects in the form of scenery, properties or costumes, to suggest an abstract idea or concept; used both realistically and stylistically. For example, in a dramatic program, the designer casts a shadow of prison bars on the crooked ringleader as he sits, plotting crime, in an ordinary, realistic office. The projected bars, symbolic of retribution or punishment, heighten the dramatic impact. Logically, the shadow might come from an adjacent window if rationalization is necessary. Atmospheric effects, such as thunder or snow are often quasi-symbolic in application. Flags, banners and certain definitive properties are also used symbolically under certain conditions.

E. STYLIZATION—Some unusual techniques of production, although not readily classifiable, depend on individual approaches by the producer and designer: for instance, the staging of a Shakespeare play in modern costumes and suggestive or near-realistic settings. Or the producing of a piece like Uncle Tom's Cabin in the manner of the 19th Century theater and the reviving of

archaic theatrical, operatic or even motion-picture conventions to achieve interest or to provide novelty.

Style is an all-production element. In dramatic programs, the scenery and costumes cannot be designed in some noisy branch of expressionism if the acting style is that of a tight, realistic Class B movie; nor is there point in staging revue sketches with settings of palpable and actual solidity. Stylistization demands consistency in all program phases, from writing to make-up.

It has already been emphasized that there are degrees of stylization in design, and like M. Jourdain and his use of prose, designers have always employed elements of suggestion and symbolism without any conscious realization. Despite the obvious need for maintaining a reasonable consistency, fundamentals of one style must often be used in productions conceived in another, and it should not be inferred from the foregoing list and notes that these are rules arbitrarily limiting the designer who, in practice, is free to become as iconoclastic as subject matter will permit. Designers, not critics, create styles.

A study of symbolic usage in staging is rewarding (the cross and candelabrum mentioned under Implied Realism are symbols), because there are so many physical objects required in a setting that are not only normal to the locale, but, like parables, convey other meanings. These are tools to be used by the designer and as such are especially valuable in expressing the mood of a scene. In television this has to be done quickly by close-ups of characters with definitive wardrobe or properties, or often of inanimate articles. The rolled parchment, ink-well, sand-shaker and quill pen in the right period may connote the court of Louis XIV, but, through association, they are symbols of romance or intrigue. A soldier's careless and wanton breaking of a delicate



A mid-Victorian realistic interior that approaches a naturalistic style. Designed for *Man Against Crime* by Edward Mitchell, CBS-TV.

figurine while looting a house shows individual grossness, but also symbolizes war's destruction of culture. Many familiar things—bread, gold, blood, timepieces, fireplaces with steaming and crackling logs, flowers, knives—may be used symbolically to advantage. Subtle or ironic as this usage of symbols appears superficially to be in a mass-entertainment medium, most producers feel that the ordinary viewer senses rather than perceives the double meaning; after all, he is not slow to appreciate double meanings in comedy sequences.

One further point should be examined in classifying designs by types and styles. The designer's technique, albeit undefinable and amorphous, is nonetheless as tangible as the tools and facilities he employs. Thus an individual artist, faced with the preparation of a wholly realistic scene, applies his own sense of design and imaginative creativeness in emphasizing certain details. When these details are expressed in terms larger than life, the means and the results are stylistic: on this basis it might be said that every setting, excepting only the most perfunctorily arranged, is stylized. This concept is very nearly correct and the designer's artistic contribution to a program is largely



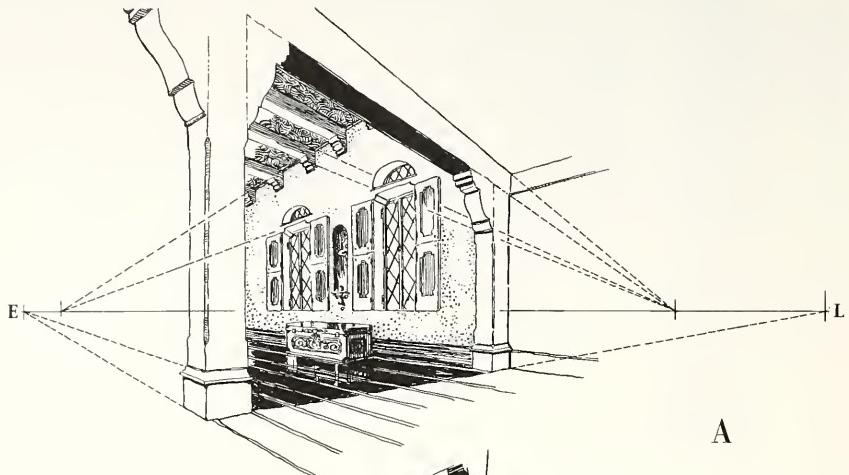
Through the use of definitive props, Otis Riggs has achieved realism in this setting for the Philco production of Street Scene on NBC-TV.



In this setting for a theater-studio revue, conventional forms of stage scenery have been designed by Furth Ullman.



A shot from the NBC opera Down in the Valley, showing a background that is partly realistic, partly romantic.

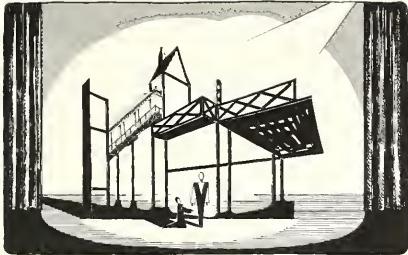


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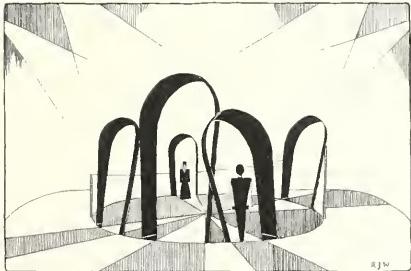
Two applications of perspective. Above, the receding lines in beams and other architectural details are forced to false vanishing points on line E-L (eye level) to provide the illusion of greater depth. Points E and L are the actual vanishing points. Below, a stylistic use of perspective which gives a flat set-piece an appearance of solidity by suggesting receding planes in contrasting values. Such sets are frequently used in musical revues.



There is a definite economy of space and money in the use of skeletal type scenery. Above, a city street scene for a dance number in a theater-studio revue. Below, an abstract design for a sound stage musical number backed by a neutral cyclorama.



A TV set, designed in planes, that is partly constructivistic. In any setting, plane surfaces with an interesting textural treatment provide excellent backgrounds for close-ups.



Top, a sketch of one of the first stylized designs to be used in television, a background for the NBC production of *The Last War*. Note the use of false perspective to give depth in a small experimental studio. Below, a period, realistic set with plan.



The Lucky Strike Hit Parade program consistently uses suggestive, stylized scenes in musical numbers. For this ballet shot, Paul Barnes, designer, has set decorated arch-forms against a dark background.

measured by his instinctive use of dramatic, symbolic and conventional material.

In summation, there are essentially three types of television scenic designs: (a) general utility backgrounds that serve as neutral backings and that denote no particular place; (b) representational settings that do suggest or imply the real; and (c) abstractions or stylizations which, in terms of art, project or express dramatic meaning, satire or overstatement.

The Processes of Scenic Design

Both the general reader and the graphic artist—although the latter should know better—have been somewhat misled by the many books and magazine articles on theatrical and motion-picture set design which, in publishing the sketches of leading designers, have given the erroneous impression, through no fault of authors or editors, that these adumbrative pen-and-wash drawings are the sole contribution of the designer toward completion of scenic décor.

One-man shows and traveling exhibits of originals, many of which are truly masterful works, have heightened this misconception and have imparted to the profession an esoteric aura of artiness and glamour. Publicity-wise, there may be advantage in promulgating such pleasant fiction, but actually, as must be obvious, scenic sketches per se are as insufficient for prescribing details of construction, painting and set dressing as an architect's perspective drawing would be for specifying steel, bricks and concrete. The scenic sketch, writes Lee Simonson, is merely an intention. Before it is roughed out, if indeed in television there is time for the designer to present a perspective drawing, a substantial amount of preparatory work must be accomplished.

After the designer has conferred with the program producer and collected copious notes on "business," proposed camera angles, general theme of the production and other major and minor considerations (see Script Content) he develops detail sheets as listed below. Because a dramatic program produced on a flat-floor sound stage involves the greatest number of complexities in layout and camera usage this type of presentation is chosen as the exemplar.

DESIGN DEVELOPMENT

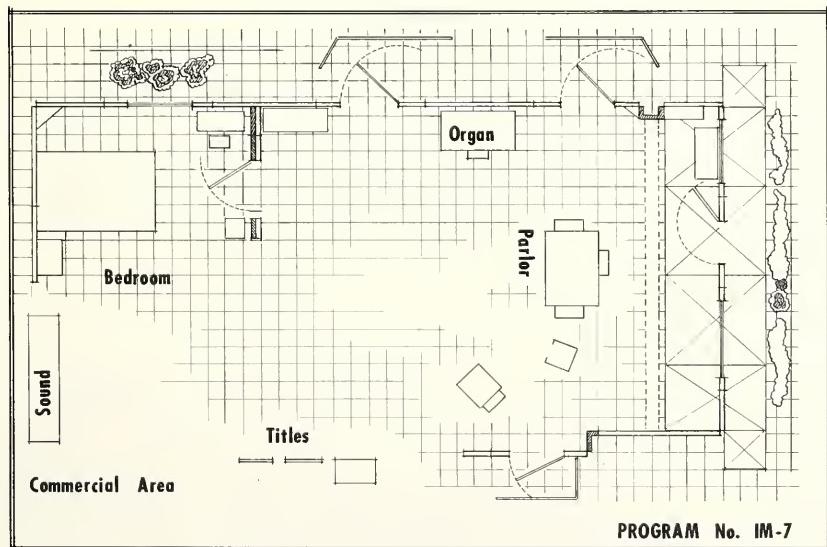
A. Rough floor plan and studio layout, #1.

Aided by his notes, references to the script and unscaled plans furnished by the producer, the designer lays out individual sets on tracing paper at a scale of $\frac{1}{4}$ " to 1'" and imposes these on a blank studio plan to check:

1. Sufficient space for cameras, mike boom, for indicated "business"; room for actors, musicians, technicians, et al., off-set.
2. Observance of fire prevention regulations.
3. Correct and efficient sequence of sets,



In practice, after preliminary roughs, a designer's first step in planning TV settings is the execution of scaled floor plans. Above, a sketch visualizing portions of a setting for a half-hour dramatic program, showing a "wild wall" (left). During the course of action, shots are taken from both sides of the doorway. When necessary, the entire wall unit can be silently removed while cameras focus on other scenes.





Four different stylistic treatments in settings designed by Frederick Fox for the NBC Your Show of Shows. Top, impressionistic. Second from top, realistic. Third from top, realistic, partly symbolic (the Arch is symbolic of Paris). Bottom, a skeletal, constructivistic setting for the opening number, Night Life. All these settings are economically designed to be backed by a neutral drop.

studio placement of titling effects, large physical adjuncts (pianos, organs, platforms, etc.) and lighting equipment.

4. Co-ordination with departments handling various studio operations, and availability of labor, equipment, special services.

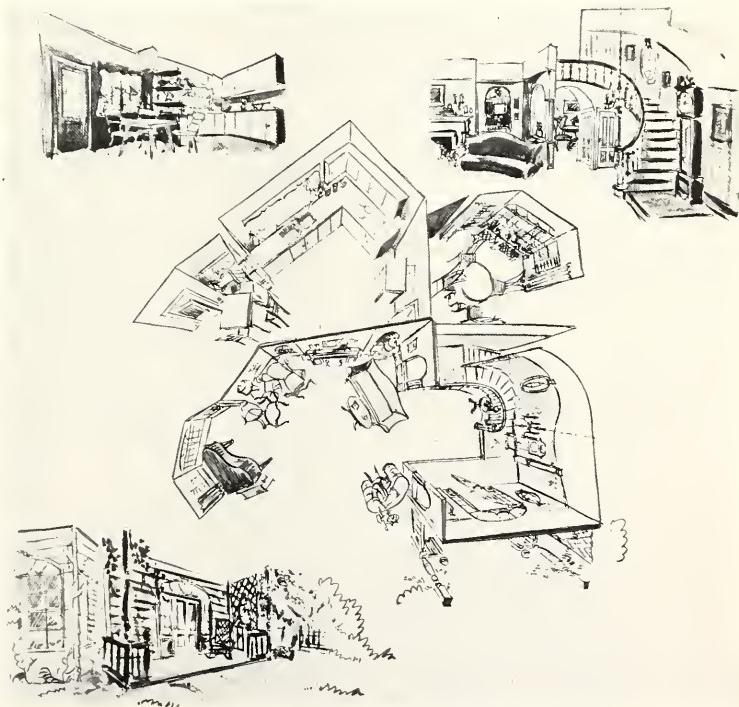
B. Development of Rough, #2 (usually a quick tracing with corrections) for producer or client approval.

Visualizations or thumbnail sketches are sometimes prepared by the designer to accompany this sheet to illustrate obscure points or to show possible camera shots. Under certain conditions, a scaled model is submitted, but only if the settings are unusually complicated, involving multiple levels and platformed areas or unconventional wall and entrance requirements.

Models are rarely completely rendered (like those shown in publicity or in exhibits) since the producer can normally visualize the scene from pencil or quick watercolor treatment.

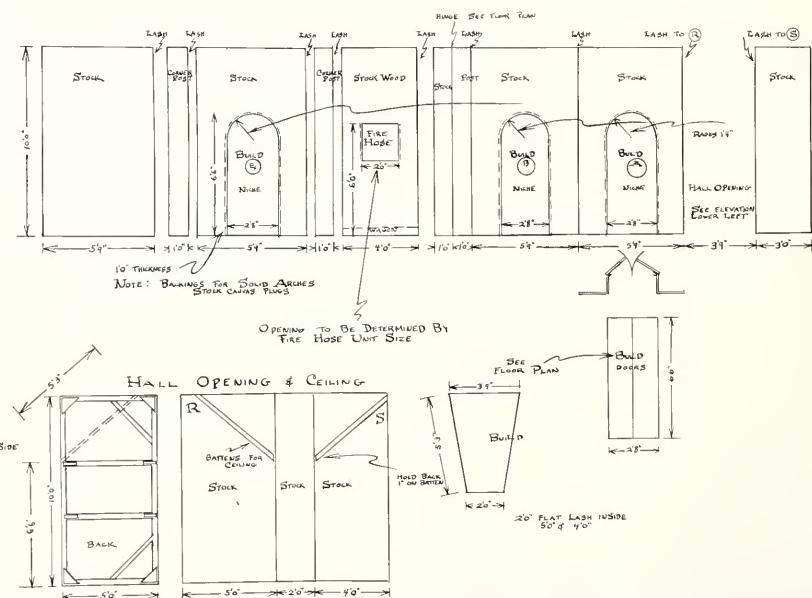
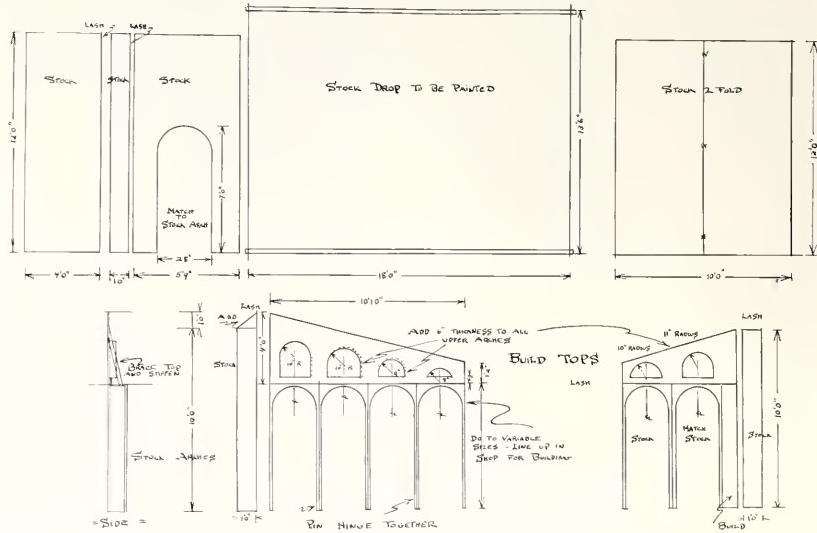
C. Final Floor Plan, #3.

Following the full approval of rough plans or maquettes, adjustments of entrances, furnishings and other necessary alterations (it should be noted that it is normally practical to keep all general plans or production schemes as fluid as possible up to this point), the designer adapts rough information into a carefully scaled, precisely drawn plan, usually rendered over a $\frac{1}{4}'' - 1'0''$ gridded (graph) studio diagram. In large organizations a staff of draftsmen who have access to stock files (see Scenery)



In order to indicate juxtaposition of settings for The Aldrich Family program, John Robert Lloyd, designer, has sketched a bird's-eye perspective view. Oriented, projected plans showing entrances are of great importance to the producer.

= FOUNTAIN SET = DROP w/ ARCHES



From the ground plan the designer develops a carpenter's elevation. In this example stock units, as well as new construction, are indicated. See illustration, next page.



In a painter's elevation intended for instruction to scenic artists, the designer has indicated artwork for the top row of units. Designed for NBC-TV by Miss Jan Scott.

assist the designer in this and other processes, but in smaller operations the latter drafts his own plans and elevations. Depending on local procedural patterns established by the art director, the designer includes this information in the plan:

1. A complete layout of all scenery, drops, set-pieces, cycloramas, etc. showing articulation, hinging, other fastening or bracing.
2. A layout within the individual setting plans of all furniture, foliage, properties, rugs, built-up ground, platforms, etc.
3. A marginal listing (in writing or typing) alongside the plans describing and coding pieces of furniture and as many set dressings as possible.
4. Clear indications of placement of draperies and all special elements.

D. Carpenters' Elevations.

Construction drawings are developed from the floor plans showing both adaptations of existing stock scenic units and details of new construction.

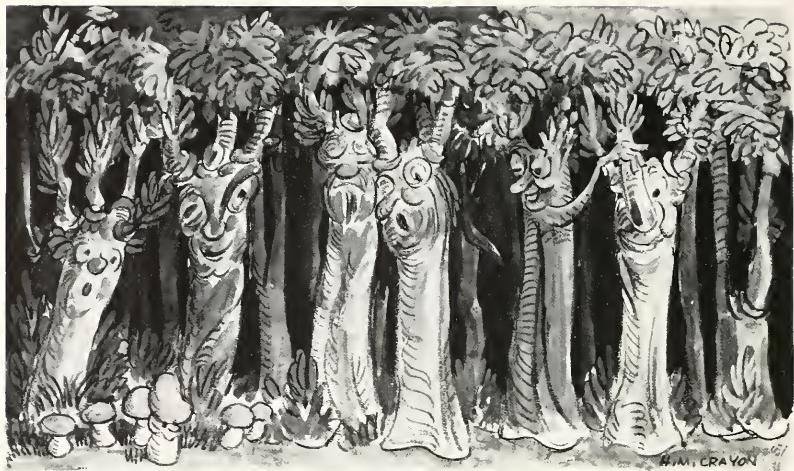
E. Painters' Elevations.

Since various scenic artists may be as-

signed to the work of execution at different times, the designer prepares a definitive series of elevations showing color and value of all elements (see *Scenic Painting*). The painters' elevations are usually scaled at $\frac{1}{2}''\text{--}1'\text{o''}$, but any other practicable scale, varying with the amount of detail, is permissible. In developing the elevations, the designer normally works in opaque water-colors to simplify the matching of tones with distemper or casein pigments.

Functions of the Designer

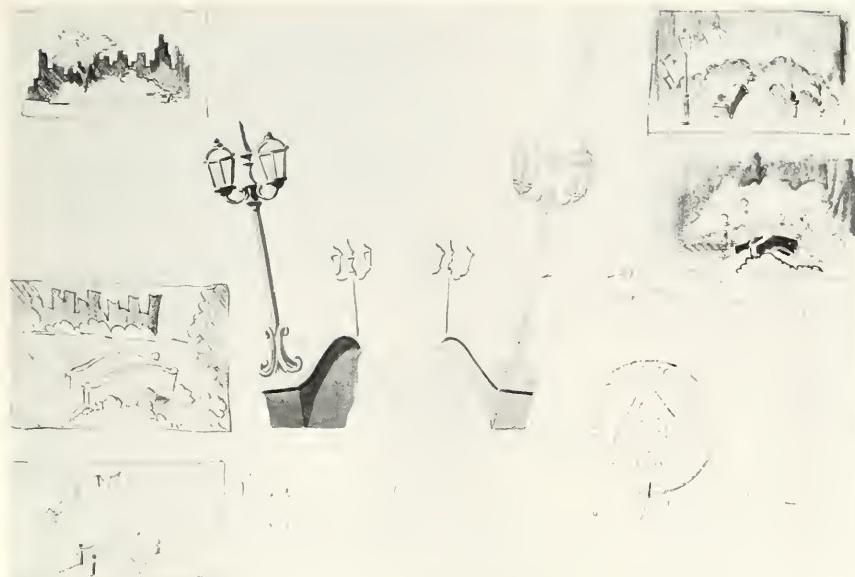
Like the architect, the designer does not end his responsibilities with the completion of drawings and specification sheets; he continues not only an active supervision over the work of all contributive sections during the preparatory period, but concerns himself with the actual selection and procurement of furniture and accessories. Once his paper work is in the hands of the construction shop foreman and the scenic artist chargeman, the designer must assemble a sizeable number of variegated production adjuncts. To obtain furniture in a network



H. M. Crayon, in designing the NBC opera, *Hansel and Gretel*, has provided a detailed painter's elevation.



Because of the haste which is normal to television production, designers frequently do not complete painter's elevations. Above, Robert MacKichan has sketched a quick notation of color values easily understood by the scenic artist. Some designers indicate tonal values by the numbers of gray-scale values.



Thumbnail sketches indicate how the designer works in developing one effective detail in a TV setting. In the center is the final painter's elevation for a profiled set-piece, designed by Robert MacKichan for the Texaco Star Theater.

operation he may withdraw from the company's stock, but since even substantial stocks cannot possibly include all periods and types of furnishings and décor, many items must be procured—purchased, rented or borrowed—from outside sources. An agency art director or a designer at a local station must necessarily deal with property and antique shops, department stores and other suppliers, renting, when feasible, at 10-15% of retail prices.

PROPS

The designer who does not have the assistance of organized property, set dressing and drapery sections obviously is faced with the task of finding articles that range from bathroom fixtures to a period coffin stand. The footwork involved in this operation is

not inconsiderable; and he should keep a notebook record of the sources of properties, with the suppliers' names, addresses, telephone numbers, approximate prices and mention of hard-to-find items that are stocked. The designer will develop an eye for unusual properties, and even though he can foresee no immediate need for certain articles, he should list them for future reference. Television programming has an omnivorous property appetite, with unbelievable and unusual demands: physical objects of all ages, periods, styles and conditions are required literally by the ton for daily network operations. If, in property rental or antique shops, the designer notes such impedimenta as a Dutch 17th Century butter churn, a framed photograph of the 1907 Yale football team, or a fragment of



Painter's elevations are practical guides to execution and require on the part of the designer a thorough understanding of technical and painting processes.

tapestry, he should record these findings for his own benefit and that of co-workers.

Whether or not an organization operates a set dressing and drapery section (essentially a service unit), the designer has the responsibility of making the majority of selections. Generally, he should restrict his purchases and acquisitions to those materials that may be used frequently and by so doing help to build basic stock for future usage.

The designer's business dealings with suppliers and truckers are relatively simple and ordinarily involve: (a) the selection of rented or purchased goods, priced within the budget; (b) the initiation of some form of purchase order which, properly signed,

is the supplier's authority to bill; (c) the arranging of trucking to and from studios, normally handled through an operating or purchasing department office; and (d) the checking of rentals and purchases against original lists or requisitions. These details, which may be handled in many different ways, are mentioned here to indicate the complexity of the designer's daily work.

In choosing furnishings and set dressings, the designer considers the following points:

1. Suitability: Correct for business, appearance, proper period, practicality, size.

2. Adaptability: Compatible with other set elements, in scale, value, upholstery, overall design.



In black-and-white television the designer makes every effort to break up wall areas in small sections in an interior setting to provide as many interesting planes as possible for reflected light. William Craig Smith has designed an effective background for the CBS Lux Video Theater production of *Cafe Ami* by the articulation of units and definitive set dressings.

3. Cost: Purchase or rental; budget check; trucking or labor schedules; storage problem.

4. Physical Condition: New or second-hand (antique); ability to withstand normal operational handling or scene shifting.

Jurisdictionally and operationally, propertymen procure and maintain hand props as well as larger items of a general nature other than those articles which are artistic elements of the setting. The line of demarcation is somewhat attenuated although normally it is understood that the designer concen-

trates only on decorative production adjuncts requiring in their selection a specialized training and a knowledge of styles, period and period usage.

The designer, aware of all set dimensions and restrictions imposed by unorthodox placement of entrances and other staging conditions, is ordinarily in the best position to decide on final selections. When the property department does procure program material, the designer should inform the section head as to wall sizes, distances between doors or windows and platform heights; otherwise, he may expect to receive furniture and gen-



A painter's elevation prepared by Robert MacKichan, delineating decorative elements for the Texaco Star Theater.

eral props that not only block entrances but extend into acting areas or even adjacent settings.

Again, the designer's task is not completed. With drawings and detail sheets submitted, furniture, foliage or objets d'art checked and double-checked, he must not only watch carpenters and scenic artists with an apprehensive eye, plan for last-minute additions and changes, alter or subdue weak or brash ornamentation as the settings develop, but must foresee during this busy period (6 to 14 days, including Saturdays and Sundays) rapid, economical means of dressing 4 to 12 individual sets.

Set Dressings

Set dressing is the decorating of the completed scene, requiring both props essential to stage "business" and extra characteristic material added to provide atmosphere and verisimilitude. For example, a realistic setting of the interior of a roadside diner may need only three stools, a few plates, a cup of coffee and a cash register as the basic properties in a holdup scene, but these articles alone (ex-

cept in stylistic usage) are not sufficient in number or in variety to suggest the essence of the actual locale. The designer, who is assumed to have a ready imagination, has to rationalize: What should be on the counter or on display in a cheap restaurant at the time of day indicated by the script? What on the back bar? Menu board on wall? Paper napkins, mustard, ketchup? Toothpicks? Folded newspaper left by customer? Prop by prop a definitive setting is built—first on paper, then actually on the sound stage—until it reflects the degree of realism required by the director.

It should not be assumed from the foregoing that set dressing consists mainly of assembling a crateful of assorted props and scattering them throughout the setting. The designer must be very careful not to overdress, to produce a confused and poorly composed picture. He will find that understatement in dressing accompanied by good taste and a touch of subtlety produces the best effect in television. Because home viewing screens are relatively small, fussy detail and areas overcrowded with minutiae should be avoided.

Set dressings are:



In staging a musical revue like the NBC Your Show of Shows, Frederick Fox, designer, must prepare a substantial number of painter's elevations and detailed drawings on a weekly basis. Above, elevations representing one half-hour segment of the 90-minute program.

1. When possible, elements of the necessary props, actually required by "business."
2. Props and furnishings related very closely to those essentials.
3. Drapes, curtains, candelabra, sconces, fireplace equipment, and other accessories to interior decoration.
4. Articles rationalized into the scene as logical and as aids to illusion.
5. Helpful subtleties that have an abstract or connotative meaning, such as the use of French Empire decorations with their typical "N" in the office of a business tycoon with Napoleonic inclinations.
6. Foliage, vines, "dirt," rocks, hydrants, street lamps, directional signs and other natural or man-made objects that serve to complete a realistic scene.

It goes without saying that all set dressings must be correct as to period and usage (it is all very well to use a rubbed-down-and-waxed late 18th Century pine commode in a "modern" colonial living room, but in a 1760 setting such placement would be *de trop*) excepting, of course, those props that are purposely chosen to project poor taste or ostentation on the part of fictional characters.

Many dramatic scripts seem to require modern interiors of both city apartments and country houses (usually inhabited by the well-to-do) and up to a point interior decorators can assist greatly in set dressing. However, the designer's knowledge is required to make the set effectively dramatic. He is cognizant of the fact that actors, stage "business" and facilities for camera and microphone boom movement are more important than delicate balances and conversational groupings of furniture. Indeed, these conventional arrangements rarely make the best camera shots, since the camera rarely sees the setting as a whole. But it is part of the designer's work to adapt the contributions of the decorator and to make them compatible



Otis Riggs combines many different types of furniture and set dressings for this scene from a Philco production on NBC. Note the use of beams painted in false perspective to suggest a slanted ceiling. This portion of the setting is seen only in a long shot.

with conditions imposed by a motion-minded and frenetic medium.

In metropolitan areas the actual physical work of set dressing is normally performed by studio propmen and stagehands under the guidance of the designer who has previously marked positions of principal props on the floor plan. In theory, a set could be dressed from plan and elevation, but here industrial efficiency breaks down to permit a reasonable amount of cut-and-try experimentation on the part of the designer. Details in dressing items of known sizes, such as draperies, valances, wall brackets, framed pictures are, of course, worked out on paper during the preparatory period, but the placement of characteristic objects and small props is best done immediately after the setting is as-

sembled on the sound stage. Because of this the designer frequently finds it necessary to adjust his working hours to operating schedules.

The designer usually remains in the studio during the "blocking out" process while the camera shots are being set up, to make minor alterations, corrections and to adjust decorative elements that perhaps looked well to the eye but which do not compose satisfactorily

in a camera shot. At the end of the final dress rehearsal, the designer's work is considered completed.

Preparation of the Set Designer

The training of the television set designer is so similar to that suggested for the art director in Chapter 3 that it is unnecessary to repeat this material here.

BIBLIOGRAPHY

Simonson, Lee—*The Art of Scenic Design*, Harper.

Includes many of Mr. Simonson's own drawings of plans, elevations and photographs of settings for the Theatre Guild and the Metropolitan Opera. The detailed plans are valuable for study.

Zinkelsen, Doris—*Designing for the Stage*, Crowell.

Practical approach in planning backgrounds for musicals by this English designer.

Note: Many works on scenic and stage designing, now listed as out of print, are of great interest and assistance to the TV designer. It is believed that most university and medium-sized libraries are able to supply the following:

Cheney, Sheldon—*Stage Decoration*, John Day, 1938

A pictorial survey of modern stagecraft.

Helvenston, Harold—*Scenery*, Stanford University Press, 1931.

An advanced textbook.

Oenslager, Donald—*Scenery Then and Now*, W. W. Norton, 1936.

A critical analysis of stage settings, from the ancient Greeks to Broadway, written by one of the commercial theater's most successful designers.

Note: In specifying colors on painters' elevations, set designers should refer to standard color cards and folders issued by suppliers. Art directors or station purchasing agents may secure informative material on scenic pigments, dry colors, "pulp" colors, aniline dyes and casein paints by applying to: TV Dept., Gothic Color Co., Inc., 90 Ninth Ave., New York 11, N.Y.

THE MECHANICS OF DESIGNING

THE ARTIST AND HIS TOOLS

IN PRESENTING the various aspects of television scenic design up to this point, I have concentrated the discussion on those visual elements which are of greatest interest to both designer and producer. There are, however, other considerations, some of which limit certain physical phases of production and some that extend and facilitate the efforts of the creative artist. In this connection it is not essential that members of the art staff make an exhaustive study of the television technical system, but it is necessary that creative personnel, especially designers, understand the principal functions and the physical dimensions of cameras, microphone booms and other units of studio equipment.

Technical Units of Studio Equipment

Categorically, the designer should know and understand the lens complement of each camera and be able to visualize, empirically at least, the approximate sizes and scale of objects in the images produced by the variety of normally used lenses. He must be familiar with the sizes and shapes of camera pedestals,

[92]

dolly trucks, camera platforms or ramps, booms and camera cable outlets and lengths. The free-lance designer needs to note and record dimensions of the various makes of studio technical equipment since his work takes him to sound stages at stations where the products of different electronic or dolly manufacturers are installed.¹ And the designer should have a basic understanding of acoustics and audio problems in order to avoid scenic-usage errors that not only affect audibility but that frequently make it necessary to alter or rebuild sets at considerable labor cost.

CAMERAS AND LENSES

Television cameras are normally equipped with four lenses mounted in a turret which

¹ The following companies are the principal manufacturers of television equipment for basic studio installation: The Radio Corporation of America, Allen B. DuMont Laboratories, Inc., General Electric Company, General Precision Laboratory, Inc. The average sizes of equipment are: *Pedestal cameras*—triangular base, with 3'3" sides; *TV Fearless Dolly* (manufactured by Houston-Fearless Corp.), including outside guards, 3'9" x 5'6"; *Boom Perambulator*, triangular base type, sides approximately 4'6".

can be turned manually by the camera operator. A regular assembly includes lenses in these sizes: 135mm, 90mm, 50mm, and 6½" or 8½". It is rather difficult to express in writing how to prognosticate the size and scale of an image resulting from use of lenses.

CAMERA SCALES

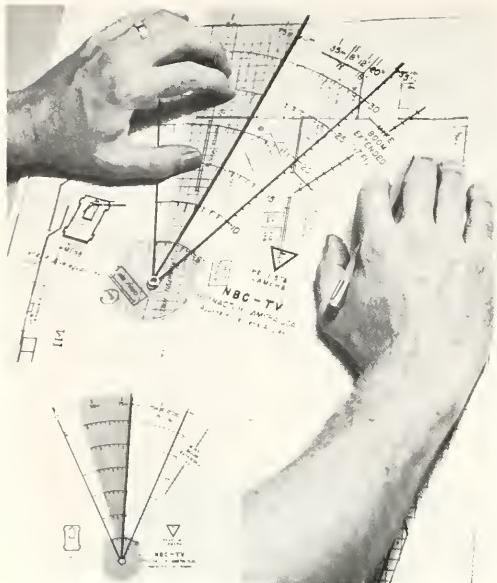
It is, however, frequently necessary for the producer or designer to know in advance approximately how much of a setting will actually be revealed in a certain shot for economy reasons, or if important details or "business" will show properly. Transparent camera scales, usually made of Lucite or

similar material, are available. They are triangular in form, scaled to ¼"-1'0", with a point near the apex representing an indicated lens. Lines diverging from this point (coinciding with the edges of the scale) include the scene visible to the lens. By placing the scale on a ¼"-1'0" ground plan with the base over an acting or performing area, the width in feet of the shot and the distance from scene to lens can be read from the scale. With the width known, the height of the shot can readily be computed, since the television picture aspect ratio is 3 (high): 4 (wide). For example, a scene is laid out in plan for an interior in which a man and girl



The approximate picture content of a scene taken through four different lenses from the same station point. Upper left: 8½"; upper right: 135mm; lower left: 90mm; lower right: 50mm. The chief advantage of the lens complement is that certain shots may be obtained by minimum camera movement, especially when the camera cannot physically approach an object or scene without being shown in the shot by another camera.





An ingenious protractor camera scale in application, developed by the National Broadcasting Company for the use of producers, designers and unit coordinators. An unusual feature of this scale is the moving arm which the operator adjusts to the lens indicator. Arcs across the resultant angle show width in feet at varying distances between scene and camera lens. The latter is represented on the scale by the eyelet in the base. Lower left: The scale, made of cellulose acetate, has a transparent blue-tinted arm, the right edge of which delineates camera angles. Width readings are taken from right to left, from the heavy measuring line to the black line on the arm.

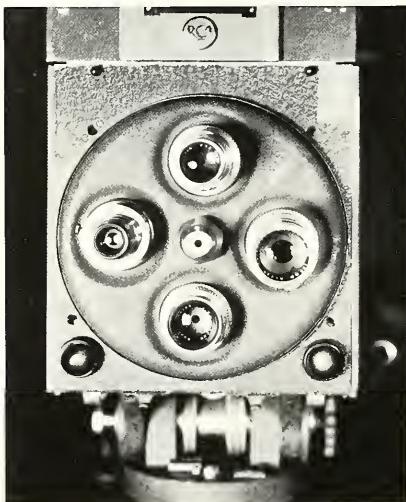
are to escape from an attic skylight. For dramatic reasons the camera must stay on the girl (at normal camera height) and cannot be tilted to show the man on the ladder. Question: How much of the man can be seen, using a 90mm lens in a camera 24' from the plan of action? The scale is applied, and since it is known that the man is to be slightly

upstage from the girl, a width reading is taken from his position, 8 feet. By computation:

$$\begin{aligned} 3:4 &= X:8 \\ X &= 6 \end{aligned}$$

The picture area is 6' by 8'. If the man is on the second rung of the ladder, it would appear that his head is out of the shot. Solution: his reactions are picked up in a close-up by another camera. It should be noted that unless the scale is composite, a different scale is required for each lens. Some scales include a gauge from which height readings may be taken.

It must not be assumed that producers and designers go through the foregoing rigmarole to plot the hundreds of camera shots in a program. In practice, production people, after extended daily observation of camera mechanics, can usually estimate the size of shots through experience. To gain this know-



A front view of a television camera lens turret. This particular complement includes 90mm, 75mm, 135mm, and 50mm lenses which are rotated by the camera operator.

how the designer should spend as much time as possible in the control room during final rehearsals of every type of show.

The designer can make his own camera scales¹ by establishing distances from lens to scene and by taking width readings from a tape measure held against a flat wall at normal camera height. Readings can be made at 5' stages (from lens to wall) and width recorded each time the camera recedes. The results may be scored on a piece of Lucite or other transparent plastic or celluloid. In buying or making camera scales, these points should be borne in mind:

1. *The scale of the camera scale must always coincide with that of the ground plan.* If a station arbitrarily orders all designers to draft at the ratio of $\frac{1}{2}''$ —1'0" for purposes of clarity, camera scales must also be scored in this ratio.

2. *To project the angle or "beam" of different lenses, the scale must be extensible (in the manner of a compass).* If this is impracticable, four or more individual scales must be made up. Or, all angles may be shown on one scale, although this type is difficult and confusing to read quickly.

3. While camera scales can be used to lay out shots from a floor plan, the information developed is purely dimensional in nature and must be translated in terms of perspective and composition before it can be

¹ Although cameras differ, especially as to plate sizes, the approximate lens angles may be generally stated as below. The angles are expressed in degrees and minutes (60 minutes = 1 degree), and can be plotted by reference to a draftsman's protractor.

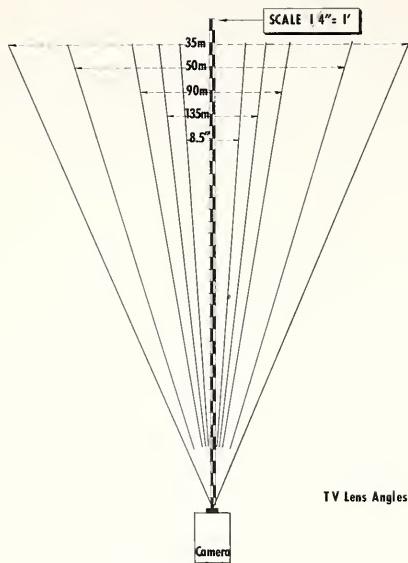
FOCAL LENGTHS	APPROXIMATE ANGLE
35mm	48°28'
50mm	34°58'
75mm	23°44'
90mm	19°52'
135mm	12°22'
8"	8°54'
12"	5°46'
16"	4°26'
20"	3°34'

visualized. This the trained producer or designer can usually do mentally. The designer employs the scales to determine sight lines, the extent of masking required and to compute vertical dimensions.

MICROPHONE USAGE

While it is understandable that the designer in concentrating on the visible aspects of production tends to neglect proper consideration of the audible, it is readily apparent that he can inadvertently cause panic among audio engineers by creating free-standing columns, ceiling beams depending from "spotted" lines, or unusual set placement that make it difficult to swing the 14' microphone boom¹ from set to set in a rapid and efficient manner. Individual, stationary mikes can, of course, be hung inside sets when beaming or other overhead work is essential, but the exigencies of television do not permit such extra installations to be made in every acting area. Often the designer is too inarticulate to talk directly with the program's technical director or chief technician when unorthodox details are being developed because he knows from sorry experience that he cannot justify the use of (apparently) supernumerary elements inserted for atmosphere and character against the engineer's cool logic. It is a disconcerting and discouraging task to describe why a "fake" beam and supporting corbel (which actually hold nothing up, or perform any real functional purpose at all) are necessary to frame the top of a shot to a technician whose everyday work requires cerebral intercourse with logarithms and slide-rules. However, the designer and engineer need not talk at cross-purposes. Experience has indicated that if the former attempts a serious ratiocination, the engineer will listen and try to comprehend the fact that even pictorial composition is orderly and reasonable. In

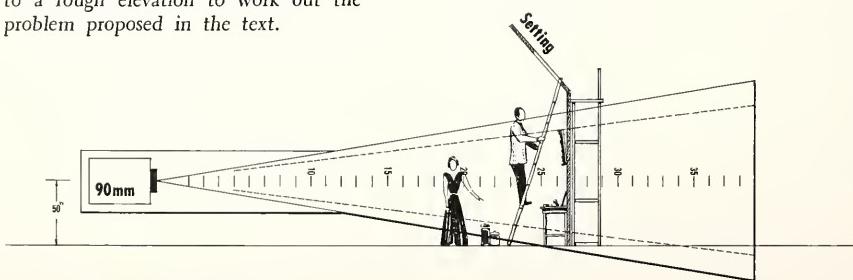
¹ Most microphone booms can extend about 10', from 7' (retracted) to 17' (extended).



(Left) The approximate horizontal lens angles for the 8½", 135mm, 90mm, 50mm, and 35mm lenses. These angles are applicable at any scale and may be traced from this drawing and transferred to a piece of transparent tissue or celluloid. The center line can be articulated in any convenient scale, since the angles remain constant.

(Opposite page) A 90mm camera scale in use. Made of Lucite or celluloid, it is scaled at $\frac{1}{4}$ " to 1'o", with dotted lines added to indicate vertical dimension of shot. Note that when scale is used in elevation the "lens" must be 50" (in scale) off the floor at normal camera height. There is a practical advantage in including a scaled rectangle to represent the camera since this information is essential in planning scenes in which complicated transitions are to take place. In the drawing the parallel lines at either side of the camera indicate transparent material not cut away. These extra pieces keep the scale rigid and prevent breakage.

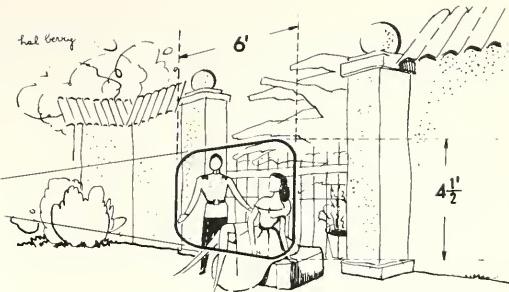
(Below) A 90mm camera scale applied to a rough elevation to work out the problem proposed in the text.



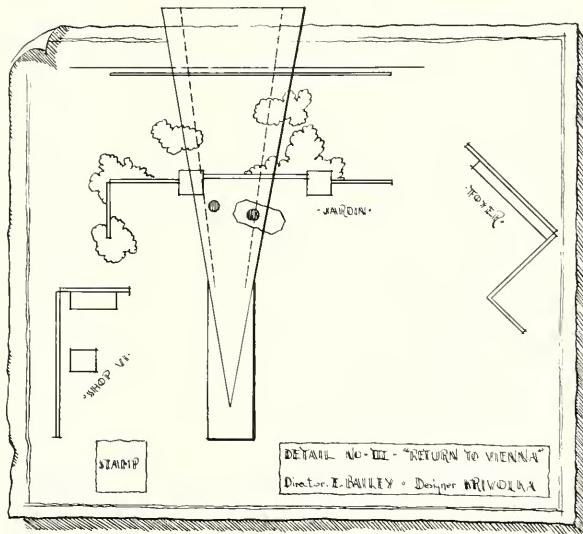
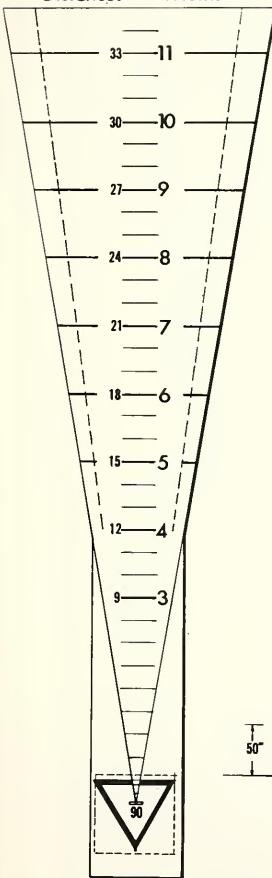
Scale Applied to Elevation

A 90mm SCALE

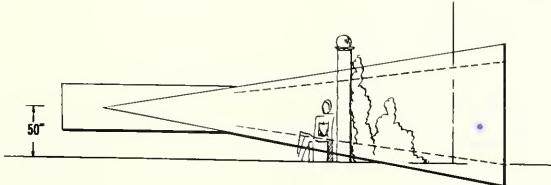
IN APPLICATION



Distances Widths



ON PLAN



ON ELEVATION

R.J.W.

other words, the joint solving of many of these artistic-technical problems usually results in mutual understanding.

CAMERA USAGE

In addition to the process of arranging settings that permit the peripatetic microphone to function efficiently over the performers' heads, the designer must also consider the floor movement of the boom perambulator and of the three or more cameras. In a theater-studio pickup these pieces of apparatus are normally restricted to runways, "islands" or other operating areas, and while a certain amount of mobility is possible, the cameras view the stage essentially from a spectator's station point. On the sound stage, especially during the production of a multi-scened dramatic program, the cameras must move from one set to another, to special-effect shots (titles, mats, transitional material for superimposition) or to individual actors for close-ups. If the cameras are used objectively ("seeing," for example, what characters in the drama see) they must have the utmost freedom of mobility in order to appear to go through doors, to meander around columns or pieces of furniture and actually to participate in the "business" indicated by the script. In other words, the camera must be treated almost like a member of the cast. The designer should also understand that in live studio operation objective usage may demand that at any prearranged time a character be physically replaced by a bulky camera with its operator or operators. Such action, basically cinematic in origin, poses problems in time and dimensional changes not present in picture filming because the television producer cannot stop and revamp a setting to permit camera entry nor can he usually afford the luxury of duplicate sets.

Two important aspects of television design are involved: (a) the planning of camera areaways. The designer must work closely with the producer and technicians so that

they can physically obtain unusual and novel shots through door transoms, burning logs in fireplaces, portholes in a ship, foliage or trees, etc. These shots, which are technical rather than functional or vital to the telling of a story, are nonetheless creative from a novelty if not an artistic standpoint. To provide for these shots the designer must be familiar with all camera and equipment dimensions in order to integrate the movement of this gear within the physical settings. And (b) the designer must assist in the solution of technical problems imposed by objective camera usage. When the camera is used objectively the resulting shots are basic and essential. In studio operation the television camera has appeared to drink poison, read a newspaper, kiss the heroine; it has been hanged at an execution and blown to bits in an explosion. For these latter effects the designer not only has to arrange his sets and furnishings so that cameras and booms can dolly past all obstacles in the labyrinthine studio, but must aid in the provision of special props, scenery and platformed areas for these unorthodox camera activities.

The designer should mark camera cable outlets on all studio plans and avoid placing large sets or displays in front of these points in such positions that it is necessary to route cables around backings. In multi-scened programs every inch of the cable is required for efficient movement. New developments in studio equipment project overhead disposition of cables and if mechanical difficulties can be solved this plan is of great value.

The Mechanics of Illusion

In scenic construction there are these basic requirements: strength, lightness and appearance (after superficial treatment) of solidity or of actuality. For the past 500 years most presentational media, even including the movies, have employed some adaptation

of the canvas-covered wooden wing. If, in the present-day legitimate theater the practicables—doors, windows, mantels, cornices—are made of solid wood and are to all intents and purposes real, the walls which support them are units or multiples of the standard 5'9" flat. And except for its "colossal" plaster sets of actual and factual architectural construction, the motion picture industry has retained the simple wing—usually covered with $\frac{1}{4}$ " plywood rather than canvas—as an element with a multiplicity of uses, particularly in interiors and backings.

There is one important difference, however, in the assembling of these units in theater and sound stage operations: In the theater, the elements are constructed and painted in a scenic shop, hauled to the theater where they are assembled and disassembled ("set up" and "struck") daily. On film sound stages, units are integrated solidly with overhead lighting catwalks and bridges; the individual pieces are nailed, screwed or clamped together, cracks "stripped" with narrow pieces of muslin which are carefully sandpapered to eliminate irregularities. Since motion-picture flats are usually shellacked and waxed, they may be covered with various types of rough, strong paper over which wallpaper, plastic, textured paint or other superficial decoration can be applied and subsequently, after usage, can be readily stripped off. Sets are prepared on the sound stage considerably in advance of shooting and may be retained *in statu quo* if they are required for additional scenes or retakes. Architectural elements can, of course, be securely attached and necessary bracing fastened at convenient points. Cornices, moldings, plaster ornaments, pictures, and built-in furniture are added with some degree of permanence and when the construction, papering and painting are completed, furniture, props, and rugs and set dressings are brought to the sound stage and arranged. In actuality, the process in assembling in-

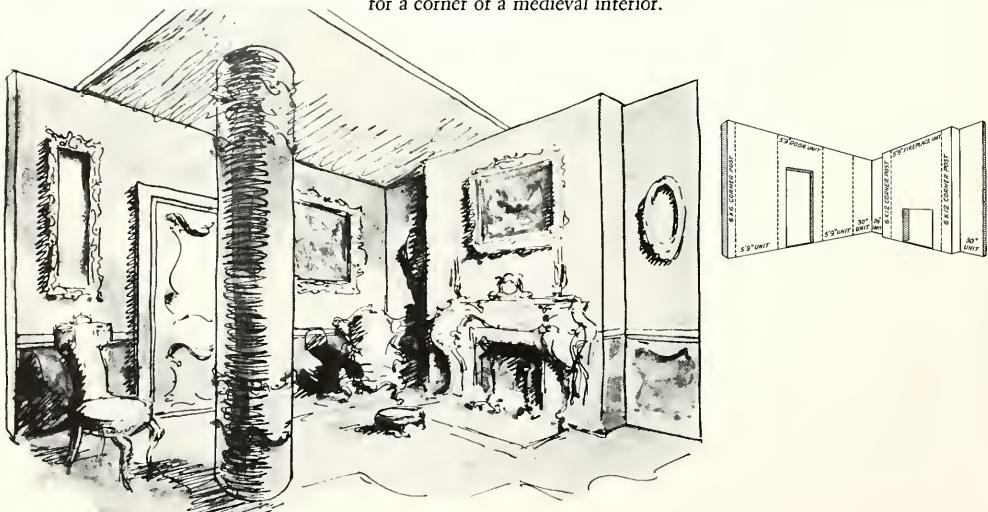
terior sets is very much like moving into and decorating a prefabricated house.

Ideally, if television broadcasting were so arranged that studios could be free for several days between shows, the sound stage method of construction and decoration would be most efficient and convenient. From a departmental angle it would be economical, especially if a mobile workshop, with machine tools and equipment and a roving crew of carpenters could go from studio to studio, and complete basic work in preparation for still other rotating crews of decorators and set dressers. But in overall operations such a process, regrettably, is simply not possible under present producing plant conditions. Studios, to accommodate 75 to 100 or more weekly live programs and to pay their way in terms of real estate investments must be cleared for as many broadcasts per week, and per day, as possible. Thus one 50' by 100' studio may house four dramatic shows, one elaborate documentary, and several small musical features placed in the studio "back to back" during a seven-day period. In order to provide the producers with 4, 5 and 6 hours of full rehearsal, with cameras, props and effects, it is necessary to assemble sets and collateral material at night immediately following the air presentation of the previously assigned program.

As a result, scenic elements must be constructed, as in the theater, in articulated units at a point remote from the studios, painted, hauled and rapidly set up in short order during late night or early morning hours. Since the scenic process in television, then, is somewhat similar to that of theater production (only, of course, faster and substantially greater in volume), artists and technicians have borrowed, for better or for worse, many forms of conventional stage scenery and have adapted these wings, flats and jogs to the exigencies of video broadcasts. Some stations utilize canvas-covered elements in the manner of a stock company, lashing and stage-



The adaptability of unit scenic elements, either of the rigid or conventional canvas-covered flat type, and the economy of integrating such standard pieces into a series of settings without substantial rebuilding are distinct advantages in low-budget programming. Lee Aronsohn, designer, indicates in these sketches how units may even be inverted to form other settings. Below, a normal assembly of elements, including a doorway and mantel opening, set as a portion of a hotel lobby scene. Top, the same units inverted and repainted for a corner of a medieval interior.



bracing, nailing and screwing and cursing to effect apparent solidity; others have experimented and developed new types of physical scenery. One of these mutants is the rigid unit capable of weight bearing and trabeated assembly.

RIGID UNITS

The basic rigid units differ from conventional theatrical wings in several ways:

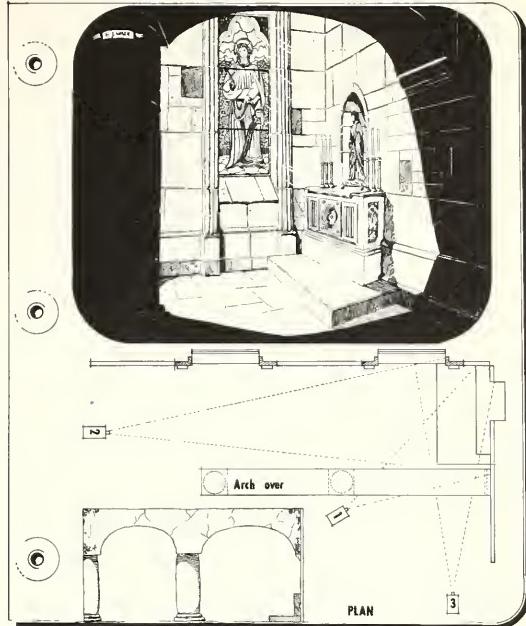
1. CONSTRUCTION—Units are built of sturdier lumber, usually 2" x 3" or 2" x 2" pine, braced with 1" x 3" pine members inserted on edge and reticulated at right angles. The resultant frame is covered with $\frac{1}{4}$ " fir plywood and over this scenery duck is applied with a strong glue solution.

2. WEIGHT BEARING—Because of this rigid construction and the inherent structural qualities of plywood the units are capable, in proper combinations, of supporting balconies, portions of stairways, platforms as well as the live loads, actors or furniture, disposed on these elevations.

3. JOINING—The units are bolted or clamped together; the vertical edges, or stiles, are dadoed to receive a spline which usually is fastened permanently to one side of the unit, leaving the other open.

4. ANGLES—Because of the relatively heavy construction it is difficult to effect external right angle turns, although internal angles of 90° , more and less, offer no problem. External angles are made with awkward "corner" members which, despite their bulk, fortunately are useful for many other purposes, such as beams, pilasters or as bracing units inserted to gain additional rigidity around doorways and arches.

5. ECONOMY—The units are heavy and awkward to handle although a single operative can easily move the 5'9" x 10' element over any plane surface. Once set up, they require a minimum of attention and bracing. Their very solidness indicates longevity. One



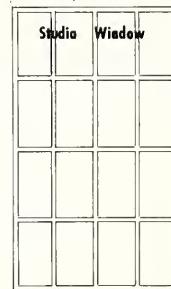
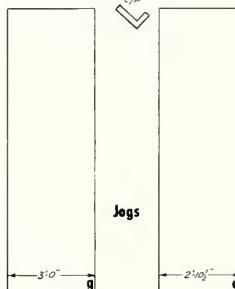
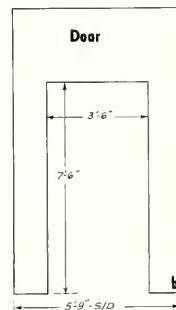
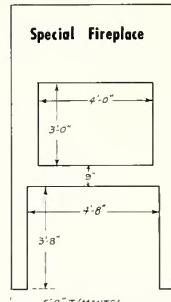
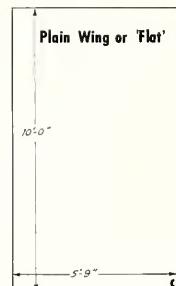
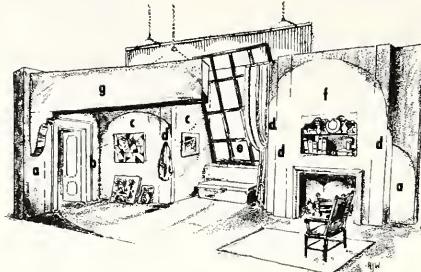
Rigid units may be integrated with quickly constructed theatrical type scenery and specially designed architectural elements.

station has economically used the same basic units for eight years with only minor repairs and semiannual re-covering (canvas) representing upkeep cost.

6. FLEXIBILITY—Generally speaking, the solid flats are more adaptable than canvas-covered scenic pieces. Superficial decoration and construction can be added to the units without extensive back bracing. Individual units may be used vertically, horizontally or obliquely. A clever artist faced with designing and executing a series of sets for a low budget program can, over a period of 13, 26 or 39 weeks, turn out literally hundreds of different scenic arrangements from a stock of units with a minimum of new construction.

Enthusiasm for the many good qualities of the solid units should not blind the producer and art director to their faults.

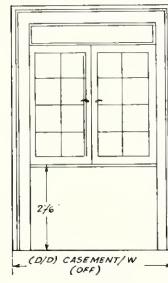
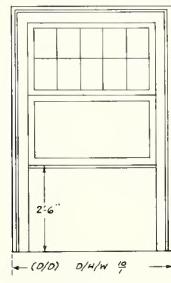
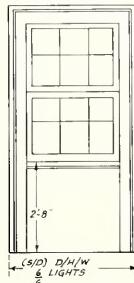
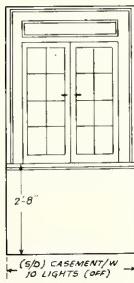
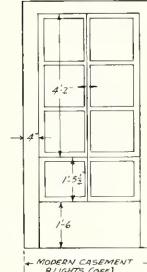
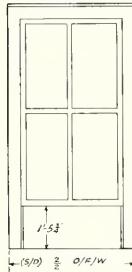
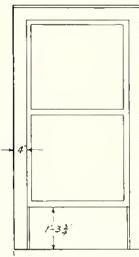
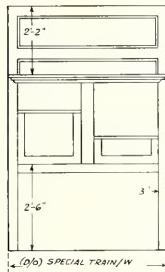
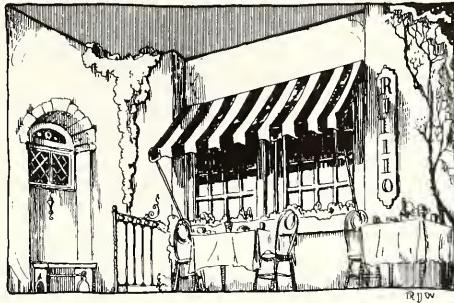
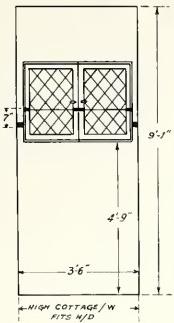
UNITS



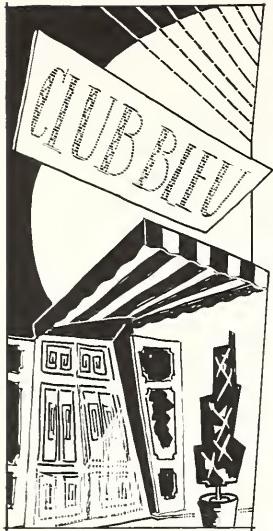
ROBERT J. WADE



In television staging, special rigid units or regular, standard theatrical "wings" are designed in modular elements. Above, a simple application showing the integration of various units into a small setting.



For efficient utilization of the unit scenery system, doors, windows, mantels and other architectural elements are designed to lock into openings in wall sections.



Inverted

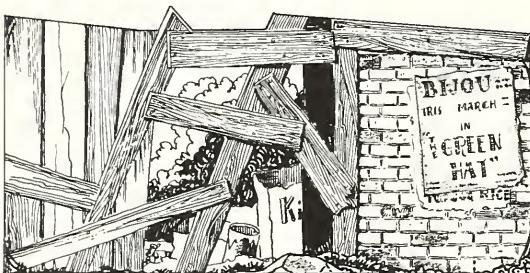


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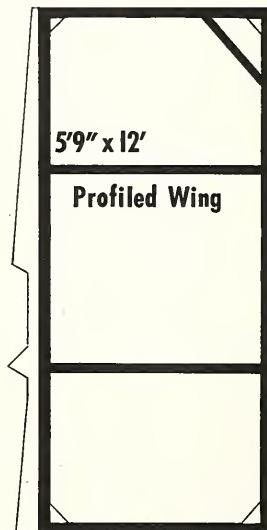


Original

THEATRICAL UNITS (Variations)



Horizontal



5'9" x 12'

Profiled Wing

For theater-studio program, the designer frequently redesigns a set piece without changing its physical contour. Above, a profiled wing made originally for a portion of a balcony set; at the left, the same piece inverted and repainted, first as part of a night-club exterior, then as a side of an English cottage. Below, the same unit, on its side, becomes a fence. In the economical redesign of such units the scenic artist assists by accenting or disguising portions of the profiling. Theatrically painted set-pieces are rarely effective in the flat floor studio because the illusion they suggest is lost when painted details are viewed from acute angles.

Creatively, they do limit the designer. Like the "Erector Set" to which these architectural, modular elements have been compared, they do not permit great latitude in individual expression. On the other hand, contrary to expectations, tests have indicated that even when identical units are employed by different designers, the final settings, because of differences in floor plan, surface treatment and dressing bear little resemblance to each other. Since only small portions of television settings actually show on the kinescope screen—establishing long shots always excepted—physical scenery per se is not as important as some producers think. Here, in descending order, is the relative importance of the essentials: actors, costumes, definitive props, set dressings. On this basis, and from an economical and assembly-line point of view, the rigid units are very adequate.

THEATER FLATS

Some stations, however, prefer to stock the conventional canvas-covered wings. These units, which include a complement of architectural elements very similar to that of the heavier type, are short-lived, relatively speaking, and require in assembly a substantial amount of hinging, lashing, bracing and stiffening especially around practicables. There are three advantages to recommend the theater flats:

I. HAULING ECONOMY—The individual pieces, made of 1" x 3" pine with only light bracing, are rapidly and easily handled by hauling and trucking crews; this is especially true when the units are new. When coats of paint and odd bits of back bracing accrue, the wings are cleared of old lumber and re-covered.



In this setting for a TV melodrama, The Bandit, standardized stock units, aided by textural painting and set dressing, create locale and atmosphere. Note that the fireplace, left, is made of a unit initially designed as an over-door arch.

2. INTEGRATION—Unlike the rigid flats, canvas scenic pieces can be ganged together in groups of three or four for efficiency in painting, handling and setting up by the application of loose-pin back flap hinges. Strips of muslin glued over this hardware effectively mask cracks and imperfections. As a result, the painter can carry an uninterrupted design across several flats, and the entire piece can be folded to be hauled or set as one unit. Rigid units must be stripped somewhat laboriously in the studio after assembly, and a scenic artist brought in to touch up. This is an expensive process.

3. ADAPTABILITY—Canvas wings are easily altered or rebuilt. If a designer wishes to change an arched window into a rectilinear opening, he has the carpenter insert a piece of 1" x 3" lumber at the spring of the arch, then tack and paste a small piece of duck over the resultant lunette and the window is "square." He can as readily reverse the process, since the "sweep" or cut-out curved member is left intact. Because such alterations ultimately injure the wing, changes, other than permanent ones, are never made in the rigid elements.

Regardless of which type of scenery a station decides to employ in the live, flat-floor studio—and both kinds have practical, economical features—it is generally agreed that the rigid units do not lend themselves to usage in musical revues or variety shows staged in actual theaters. Because conventional stage scenery was developed for theatrical purposes, it is logical to assume that standard drops and flats are fully efficient and functional. But this is not to imply that typical stage scenery is the final word in physical equipment for television.

The designer should realize that the producing of television programs in regular theaters with the cameras "out front" may be simply a transitional step toward a new television-inspired entertainment form. But



Three designs (which actually served as painter's elevations) for Your Show of Shows indicating how Frederick Fox, designer, utilized the same profiled set piece by repainting details without altering construction. The unit itself is flat. Note how the studio window is cleverly suggested. Courtesy of Max Liebman, producer.

this matter, like many others in the programming field, depends largely on the trends and theories of commercial broadcasting.

OTHER TYPES OF SCENERY

The following notes list other types of television scenery:

1. *Draperies*—Since the beginnings of civilization plain or patterned draperies, hung in rich folds, have been considered an effectual, if neutral, background suitable for many practical and decorative purposes. The luster of Genoese velvets, the texture of linen, the shimmer of Oriental silks and the freshness of chintzes play an important and romantic part in our art and culture. In the theater, in domestic decoration, in the church, in pageantry and displays, draperies have gracefully and even symbolically provided a frame and a setting. They normally hang in simple and unaffected folds; they are "safe," usually in good taste, and are often beautiful. But they do not look particularly well on television.

Drapes in small quantities are acceptable in television production if the material hangs well, is of attractive texture and if the lighting is carefully arranged. Why fabrics with interesting textures which superficially might seem to be photographically ideal appear mottled, dirty and characterless on the system is hard to explain; essentially, the main reason is the loss of color. The very imperfections and irregularities that make a plain piece of fabric—linen, burlap, crushed plush, heavy cotton repp, are some examples—texturally attractive in color seem to accomplish the opposite in black-and-white. Too, the camera picks up the slightest wrinkle or crease in such closely-woven, shiny fabrics as satin (and cotton sateen), taffeta or bengaline. Pile fabrics, such as velvet and velours, and brushed goods, cotton duvetyn and other suedelike stuffs, are effective on black-and-white television. It is always well to test fabrics on camera, using as sizeable pieces of

samples as are available before making purchases.

In the main, the foregoing applies to draperies used principally as backgrounds. Smaller, set-dressing drapes intended for window hangings and other interior decoration purposes normally present no special problem since they rarely fill the entire screen and are not in themselves actual backgrounds. The overall drapery and fabric problem is not confined to television production, but is common to all achromatic systems, including both still and motion picture photography. Carefully directed lighting can enhance the appearance of drapes, but in black-and-white they must be spotlessly clean, well pressed and painstakingly hung and draped to be presentable.

In color television, however, the situation is reversed. The simplest drapes, regardless of fabric quality, appear glamorous and rich-looking if reasonably well-lighted. Smudges and imperfections tend to disappear and the color of the drapes, expressed in terms of light, comes over the system as bright and clean. As color broadcasts increase, the use of drapes for both general and spectacular background effects is indicated and certainly will be a substantial factor in the economy of color production. Experience has indicated that high values of the grayed, tertiary tones are very successful as backgrounds.

2. *Substitutes*—For the past ten years, but more especially since the acceptance of television as an established advertising medium, industry operators and producers as well as agency and package executives have attempted to develop cheaper substitutes for scenic backings. Appalled not only at the cost of theatrical and motion-picture labor and equipment but by the sudden, insistent demands of visible production, many of these operators were—and are today—interested in low-priced, degraded staging methods.

Are there such methods? Granted that certain television shows require very little

actual background, are there ways and means available to stage these programs simply and economically?

There are several practical methods of achieving substandard effects at low cost. Each is slightly unorthodox and because most short-cuts tend to decrease employment of scenic artists, carpenters, stagehands and other craftsmen, designers and producers who devise means of fabricating scenery without the usual amount of construction and painting may make themselves rather unpopular with the guilds.

In low-cost television, wallpaper (which must be flame-proofed if used in quantity) is used extensively to avoid scenic painting. In practice, the necessary units are assembled according to plan, and wallpaper, usually plain, mottled, or "oatmeal" (occasionally a faint stripe or arabesque) is tacked, not pasted, to the elements. To the eye and in long-shots the total effect is often discouragingly messy, but in individual close-ups the result is not at all bad. Sizeable dramatic shows can often be economically staged in papered sets, although most inexpensive wallpaper made for domestic uses is likely to be both busy and kaleidoscopic. Paper may be tacked or stapled on scenery by stagehands; if it is pasted, scenic artists do the work because their union has established jurisdictional control. In tacked-on wallpaper sets some trim painting is always necessary, especially on doors, mantels, stairways and floors; as a result, scenic labor is well represented on the billings. In the opinion of many designers and art directors patching up sets with paper or even cheap fabrics simply to save painters' charges is not always as economical as might be expected nor are the results too acceptable. Still, on a small scale the method is practical. One station recently applied an inexpensive printed cotton to the walls of a bedroom set and saved hours of laborious, hand-stencil work. Fastened temporarily with a small stapler,

the material was removed when the set was "struck" for subsequent re-use. Marbelized and other novelty papers are useful, as well as "flocked" papers in which the pattern is raised from the background in the manner of a brocatelle or damask, but these substitutes for painting—and some are superior to painting when properly employed—are probably more expensive as to labor and materials than standard decorating processes. In dramatic work, sets covered with papers or fabrics are likely to appear over-bright and characterless, and in order to achieve a lived-in quality or a definitive atmosphere, the designer must assign scenic artists to tone walls and backings with a spray gun or to "dirty up" or "antique" certain portions. Under these circumstances the end result may well be that the use of superficial wall coverings is a third more expensive than straight painting, because those services which are meant to be excluded actually are utilized.

Scenic execution in television should not, of course, depend on any one method. This is especially so in theatrical-type scenic painting which, successful in its application to stylized or presentational design treatment, still offers only two dimensions to a medium that requires, for realistic effects, as many details in full and partial relief as possible. In this connection, the following process is applicable:

3. *Photo-Enlargements*—Photo-mural drops and backings are not so much a substitute for scenery as they are an adjunct. Widely used in motion pictures, especially in connection with portions of exteriors built on sound stages, they were first used in television in 1946 as backgrounds behind windows and other openings to suggest expansive vistas of buildings, foliage or characteristic landscapes. Photo-enlargement units for television use are of two types: (a) photographic (sensitized) paper (bonded to a medium heavy duck), on which a

photograph has been enlarged, and (b) sensitized fabric (usually a kind of thin cotton twill or regular theatrical duck) on the surface of which a photograph has been developed. On small backings the photographic paper is glued to $\frac{1}{4}$ " wallboard, normally under 4' by 10' in size. Paper-faced or fabric drops can be made in any convenient size—18' by 40' or more for theater-studio use and 10' by 12' or 14' by 24' for sound stage installation. Enlargements can be produced from any good 8" by 10" glossy print, sketch, wash drawing, lettering or logo-type in achromatic, monochromatic or full color scales. While the black-and-white grays are very satisfactory, some art directors prefer enlargements in values of sepia or blue, depending on local conditions, differences in camera tube responses, and lighting equipment.

The main advantage in the utilization of photo enlargements as backgrounds is that the camera picks up a "picture" which photographically has already been transferred in terms of light, shade, shadow and perspective to a plane surface. If the drop is well lighted the effect is apparently stereoscopic, although only one image is involved. Foliage, rolling hills, clouds, mountains, even buildings and storefronts supposed to be at a far distance or merely "across the street" from live action appear to recede in an illusive manner.

The cost of photo drops is computed by the square foot (from \$2.00-\$3.50). With reasonably good care a fabric drop will last a year or more; paper-covered units with fabric backs are short-lived unless they are kept hanging flat and well protected.

Since the initial cost of enlargement of drops 12' by 24' is approximately \$400-\$600 the art department cannot hope to stock a wide variety of subjects. Rentals are available in film production centers but not usually elsewhere. The following kinds of drops have extended use:

a. General Landscape—Trees, foliage, bushes indigenous to the temperate zone, but not localized in type.

b. General Landscape—Palm trees, semi-tropical foliage. Photographs selected should contain details common to portions of Florida, Southern California, Hawaii, etc.

c. Metropolitan buildings or skyline, during day.

d. The same, at night.

e. An "across the street" scene, with buildings and shops.

f. Any "neutral" building, with portion of grounds that at various times might be used to suggest a school, hospital, sanitarium, laboratory or library.

Since these drops are used to back windows and doors, only small portions are seen and, as a result, frequent repetition is practical.

Because of the successful usage of photo enlargements, experiments have been conducted to find whether or not this development might be applied to the designing and executing of interior settings to avoid both the costs and the sub-realistic appearance of scenic painting. In films, interiors are effectively backed by "blow-ups" of architectural detail and many items of set dressings, especially large oil paintings and tapestries, can be so processed. The idea of hanging backings of enlarged photos picturing large interiors, expanses of Rococo panels, furnishings and flamboyant ornamentation that would be difficult and expensive to render by painting, is sound, but hardly practical since stage business requires performers to descend stairways, open and walk through doors or French windows and to handle or adjust certain props. In addition, the casting of desirable shadows is difficult without immediately revealing the plane surface of the enlargement. When photographic work must be incorporated in portions of a live interior setting, in backings behind three-dimensional scenery, these vistas and per-

spectives of foyers, corridors or great halls are best achieved through the use of still rear projection. The cost of slide and service is 95% cheaper than the price of a special photo enlargement, the subject matter of which might not readily lend itself to frequent repetition on subsequent programs.

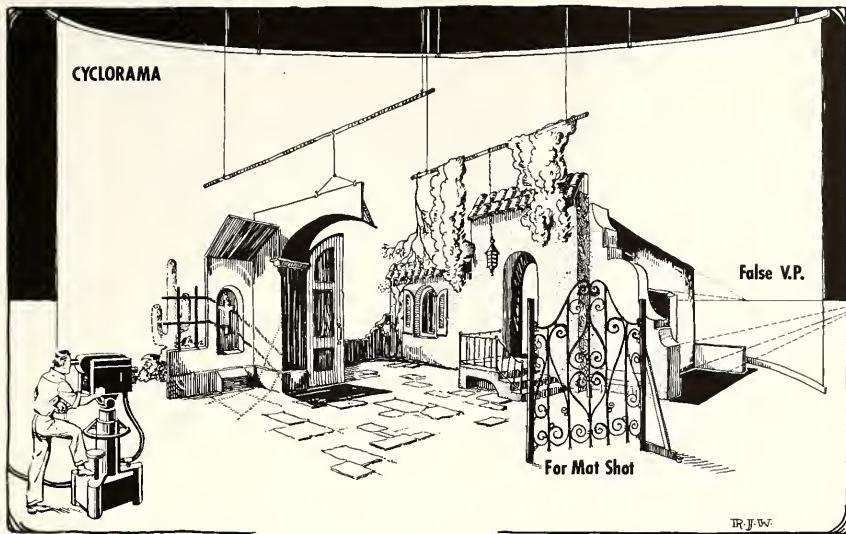
The foregoing discussion treats of backings. Experimenters have recently suggested that the actual elements which make up an interior setting be covered with photographic enlargements of the corresponding sections of a real room; i.e., walls, mantels, doors, etc., are to be photographed on location, or developed from a suitable file photo of the type of interior required, usually without furniture. The walls of course must be expressed in elevation and the element of scale carefully worked out so that doors, windows or decorations are enlarged in proportion to the human figure. In tests, doorways and other openings were cut out and an entire physical setting covered with fabric over which an enlarged photograph of panels and other decorations was stretched. The results of the tests were not conclusive. The initial costs of photography and development, plus the amount of labor involved in stretching a thin, easily damaged, elastic, chemically-treated cotton fabric over frames (an unsatisfactory solution) are obviously much greater than painting charges. Except for usage in short sequences or in certain commercials it is doubtful that this adaptation of photo processing is practical. The matching of moldings, shadows, and other decorative details is possible, but the actual work involved is complex and arduous.

4. Selective Realism—One method of staging dramatic programs, musical revues, and even operas, economically excludes all but the basically essential elements in a setting. Effects are achieved by the use of definitive props and set dressings which are placed in front of a tightly stretched, plain cyclorama. Pictures, draperies, small book-

cases or cabinets and other bits of décor are suspended from lines along imaginary planes of nonexistent walls of interiors. In order to utilize this method successfully and to obtain the illusion of actuality, the designer and producer must work very closely together and plan "tight" shots that can be effective only from established angles. This minimum scenery plan has been adapted successfully by such designers as Otis Riggs, in *Our Town*, a Philco Playhouse program; Samuel Leve, in a dramatic series for CBS; and Howard Bay, in the Somerset Maugham Theater program. Action for the camera is directed around well-organized furniture groupings and many shots are secured by shooting through such characteristic elements as gates, prison bars, profiled portions of ingeniously contrived archways, grilled windows or natural foliage. In most sets, a very small quantity of construction and painting is indicated but when these two crafts are employed the workmanship must be of top quality. Scenic costs of sets executed in this selective manner are likely to be astonishingly low.

However, *ex nihilo nihil fit*; the designer obviously cannot subtract more than the sum total and still retain qualitative standards expected of high-grade show mountings. Therefore he concentrates on props, furnishings and set dressings which, since these pieces must carry the burden of decoration, are usually oversized, overornamented and generally more expansive than props required in an ordinary setting. Property, drapery and set-dressing rentals and purchases are high. While scenic labor is minimized, the time expended in hauling props and in hanging pictures, mirrors and wall brackets in unorthodox ways is increased. But basically, if minimum type sets are planned with care, the method is an economical one.

It must be emphasized again that shots must be tightly set because there are few safety or masking areas available if the



"Minimum sets" are usually completed only in those areas that appear in tight camera shots. In order to achieve illusion with the smallest amount of equipment many shots are taken through arches, foliage and mats or similar cut-outs. Note the use of false perspective and the plain sky cyclorama.

camera shoots off or over established backgrounds. Producers and designers must be experts in understatement and subtlety, because in inept hands the employment of this method can result in a chaotic profusion of shots showing ornately framed pictures hanging in space from not too invisible wires, or isolated, unrelated props that make sense only in certain compositions, or portions of the plain cyclorama with no detail at all. The producer must also be extremely careful in handling exits and entrances because there are often no masking walls adjacent to doorways and the camera may pick up actors prior to or after appearances when they are actually backstage.

Creatively speaking, there are many interesting and artistic possibilities in minimum staging. If the producer and designer can overcome the apparent restrictions, they

both should feel a very definite sense of accomplishment in working with a system that combines economy with an acceptable but not substandard substitute.

5. Television-in-the-Round—If minimum staging avoids scenery as much as possible, television production "in-the-round" uncompromisingly eschews it altogether and concentrates on close-ups and medium shots backed by a dark neutral drapery cyclorama and such lighting effects as can be managed without reflective surfaces larger than the human face or an occasional, necessary property like a document, menu or portion of a piece of furniture. The theory behind this technique seems to exclude all art or visible effects of a production nature.

Programs produced "in-the-round" are simply staged in the center of a studio with three or more cameras picking up action

from the sidelines. Since only close-ups and a few medium-shots are permitted, little or no background is ever shown, although occasionally it is necessary to include a small portion of the dark cyc. Because only the actors are lighted, this registers as a black void. Essentially, this staging technique, suitable for serious dramas of stark realism, follows the style and methods of its prototype, the arena theater, in which actors or performers function from a central stage or open area almost entirely surrounded by spectators.

While graphic artists for obvious reasons do not cotton to this technical development, the method has many excellent features and provides means of presenting certain types of dramatic fare in an atmosphere of intimacy. The viewer, not always without some embarrassment, is enabled to watch and to eavesdrop at close range during emotional scenes and can observe, if he has the clinical interest, enlargements of varied eyes, ears, noses and throats reacting to different stimuli. Central staging, with scenes picked up by cameras from an outer periphery of gloom, is not particularly suited to the amenities of comedy or the exigencies of farce or fantasy. However, experiments featuring night club entertainers working circus-fashion in a large studio against a circular background of spectators and neutral drapes have been very successful, chiefly because this staging method (except for its accent on revealing close-ups) approximates the presentational conditions associated with certain types of entertainment. In the hands of a clever producer television-in-the-round may be a possible, economical answer to the across-the-board production of soap operas and similar serials of a dramatic nature, although this method is not an illusive one; rather, it requires a substantial contribution on the part of the viewer who must imagine most production mountings except costumes.

In practice, central staging is actually an economical technique. The restricted use of trim, properties and practicables makes it possible to keep production expenses as low as \$50 per program. While the scenic designer does not develop settings, he can provide invaluable assistance to the producer by drawing storyboard sketches as visualizations. Anomalous as it may sound, this type of planning (without the tools of illusion) is extremely valuable to the designer and a great aid in developing compositions when he again turns to working with scenery and its adjuncts.

It must not be assumed that the aforementioned cost-per-show figure covers the necessary basic equipment required to initiate a series of arena programs. A sizeable drapery cyc is needed, perhaps in four sections, each about 16' by 50', draped to at least $33\frac{1}{3}\%$ fullness. Also elaborate and mobile lighting equipment and facilities for handling complex titling devices, mat shots, and all kinds of special property effects. The drapery pieces, which hang from especially made curved cyc pipe battens, are dark green or violet rather than dead black. In arranging a studio for central staging it is the original cost that is high; the upkeep is nominal.

6. Skeletal Scenery—Skeletal settings are composed of minimum type scenic elements expressed in outline form. They have been used in the theater (notably in Russian constructivism but also in American musical revues) for some years. In essence, they are the outgrowth of one of the dogmas of modern stylization which insists that form be defined in space mainly by plane or linear means, such as certain types of "structural" architecture and of metal sculpture. In practice, skeletal settings are used in television revues and variety shows because they are clean lined, understandably impressionistic without being arty, very economical and capable of being extended or reduced for subsequent usage by deft manipulation of



Skeletal settings used in television are partially suggestive and essentially constructivistic. A neutral backing is always required.

saw, hammer or hatchet. They are light, easily handled and shifted and require only a minimum of painting.

Physically, the skeletal unit is essentially developed from an uncovered scenic frame. Battens and crossbracing members, made of straight, regulation 1" x 3" lumber or wider pieces cut in profile, are wrought into a suggestive or meaningful design. Normally backed by a plain, lighted cyclorama, the "skeletons" stand out in contrast and define the shape of a solid mainly by implication. The technique does not work with draperies unless they are off-white or high in value because the folds of most conventional drapes tend to decrease the necessary contrast. However, the designer can paint the exposed ribs of the setting white, black or in any intermediate value. When it is necessary for clarity of design, he can add small profiled areas of cut-out plywood, which are usually painted in a bold manner consistent with this stylistic approach.

Skeletal scenery, because of its novelty and impressionistic characteristics, is best suited for revue or variety show numbers of short duration. For several seasons Frederick Fox, designer of the *Your Show of Shows*

program, has made excellent use of its simplicity and versatility in this series, and Paul Barnes, art director for the *Lucky Strike Hit Parade*, frequently combines this technique with other methods to good effect. Because at least 75% of the setting must be picked up by the camera (close-up shots normally show only meaningless detail) skeletal scenery is most effectively employed for acts or numbers that require medium-long shots: for example, song groups or choruses, ballet, revue, sketches, bands, some skating or acrobatic turns and even operatic excerpts. This adumbrative technique is rarely applied to the staging of dramatic programs, although there is no reason it might not be satisfactory for costume pieces or episodic poetic plays for which photographic realism is not indicated.

Special Scenic Effects

In television production there are many varieties of special audible and visible effects essential to programming. While the creation and execution of most of these is the concern of engineering, property or special effects departments, the scenic designer and his assistants are responsible for a few which either involve art or design functions or include scenic, photographic or titling details. At most stations with a full schedule of complex productions the special effects department, working closely with the technical (engineering) and property staff members, invents and handles such effects or effect devices as:

Mirrors	Optical dissolve units
Special lens attachments	Rear projection (equipment)
Prismatic lenses	Shadow boxes
Silhouette effects	Break-a-way props
Explosions	Atmospheric effects
Natural phenomena	etc.
Smoke	

Other special effects requiring full or par-

tial contribution from designers or the art department include:

Camera mat developments	Drawing for film animations
Titling and display effects	Miniatures Rear projection (slides)

Because special effects are, by definition, unusual or extraordinary in themselves, it is often difficult to resolve what department executes certain special effects, since nearly every effect device requires a multiplicity of techniques and often the combined efforts of engineer, artist and skilled mechanic to complete it properly. When an organization has no assigned special effects man to coordinate this type of work, the designer must proceed cautiously and tactfully with plans so that he can help avoid internal jurisdictional disputes which frequently involve time losses, if not work stoppages. The following special effects are largely scenic in nature:

MAT SHOTS

For many years the films have successfully employed a method of securing full or partial shots of expansive or exotic scenes by economically shooting through small pieces of plate glass on which portions of the setting were painted in miniature. These were so scaled and arranged that actors playing against plain or partly completed sets appeared in the final print actually to be within the whole preconceived scene. These "process shots" (described in relation to motion picture production by works listed in the bibliography) also include the employment of models, miniatures, specially treated mirrors (of which certain reflective areas are scraped away to permit action to be shot and blended with a reflected, photographic image) and of course the double printing of live action taken against a neutral background over shots of actual scenes.

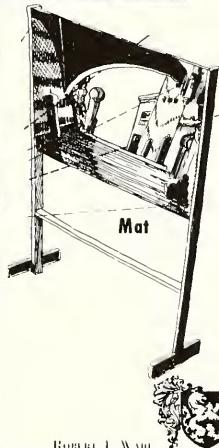
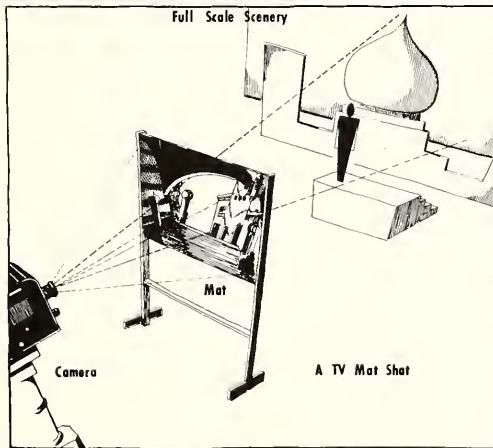
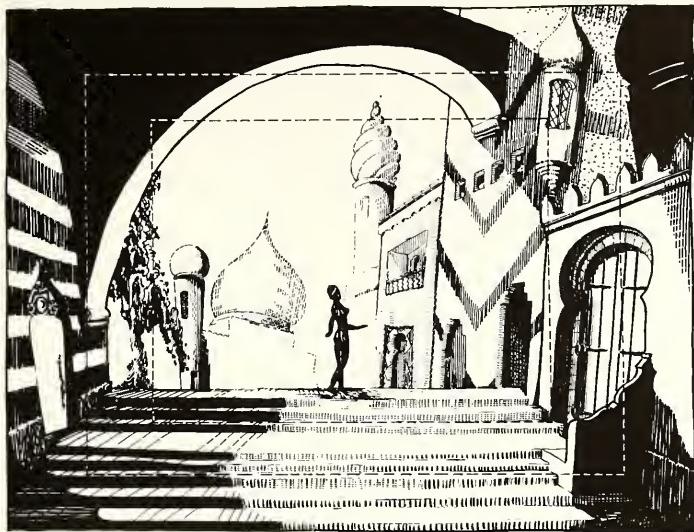
Although all these process shots are adaptable to television production, only one or

two are immediately practical. This is because in normal studio operation it is impossible to free one of three or four cameras for the time required to set it up on a special effects shot, and also to adjust lighting and integrate action. That such shots are effective on the system has been established by experiments. In the future, the installation of a special effects camera as standard studio equipment will enable the producer and designer to utilize many processes developed by the films.

But an adaptation of the film's mat shot process has been very successfully applied to television. In the mat shot, a setting is so designed that a portion of it is carried on a 30" by 40" cardboard, or any thin opaque material, in miniature, and another part is executed in full scale on actual scenery at the point where the performer is to appear. The camera picks up the art work on the mat (areas of which are cut out) and shoots through the open portions to take live action. The device is useful in musical programs in which absolute realism is not necessary. In dramatic show applications the foreground is likely to appear too painty, although certain "dark" or atmospheric shots are often sufficiently illusive.

The employment of a photograph, enlarged to mat size, in conjunction with rear-projected photography, is extremely effective. In a recently produced Christmas program a designer, in staging a short choral sequence, rear-projected a photograph of the interior of a Gothic church, taken from the nave and including distant stained glass windows. Before this projected image he placed the chorus and picked up the total scene by shooting through a cut-out photographic mat of typically ribbed arches, enlarged from another picture of the same interior. The effect achieved an amazing depth of perspective and unusual illusion of actuality by such simple and inexpensive means.

Physically, camera mats are usually sup-



ROBERT E. WADE

When the camera shoots through a mat or "gobo" it adds information painted on this intermediate cut-out to full-scale material situated at a distance, with the result that the two planes seem to blend optically. In the drawing, above, the archway and portion of the oriental street and steps are painted on a mat and portions of the arch cut away. The live dancer is actually standing on a real platform, perhaps 35' from the camera and is backed by a full-scale profiled set-piece. If her activity is confined to the top of the platform, she appears to be standing on the top step. In general, this is the principle of all "scenoscopes" and other optical camera attachments that add scenic information to a bare simple shot. Many of these devices are complex. The dotted lines in the top drawing indicate other 3:4 camera shots.

ported by an H-shaped easel, the top portion of which is grooved to hold a 30" by 40" cardboard or plywood mask. Regularly assigned studio lighting gear can normally be moved in to provide illumination or effects. Recently, however, several firms have developed a variety of "scenic scopes" that may be coupled directly to the front of the camera. Within these units, which are basically boxlike or tubular, an inner chamber contains a slot for an opaque slide and a controllable lighting source. Some complex models include mirrors and lenses, film systems and cooling devices, and it is claimed they are able to provide through film or slide all production adjuncts except performers. The elementary type is merely a refinement of the cardboard mat: the camera shoots through the chamber, picking up information from a 4" by 5" card or slide which is partly cut away or blocked out to permit the shot to include live action against full scale settings normally placed at a distance

of 20 to 30 feet from a camera using a 6½" or 8½" lens. The results are effective and startling, since many unlikely combinations are easily possible. A wide variety of opening shots to establish locale may be obtained at very low cost. Again, full development of all types of camera-masking devices must await the special effects camera, because in most programs one of the three or four regularly assigned cameras cannot be spared from operations long enough to be hooked up with mechanical and optical devices that must be precisely set in the studio.

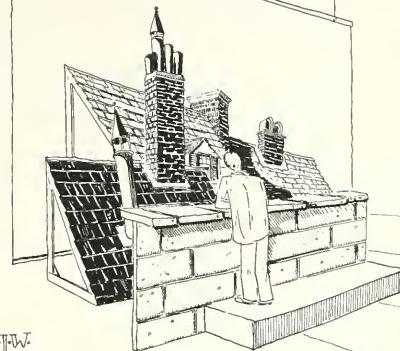
MIRROR SHOTS

Mirror shots are used to pick up action from unusual angles or from points at which it might be impractical or expensive to place a camera, such as on an elevation for down-shots or in a trap or pit for up-shots. The actual mirrors themselves, 30" by 40" or larger, framed and backbraced, are frequently used in pairs and either fastened within a rack or stand or adjusted on makeshift equipment in the studio. Often they must be set up for special shots during on-the-air operations and immediately removed after usage, a condition which restricts the number of effects possible unless the sound stage area is sizeable. Standard practice involves the use of a metal or wooden stand approximately 9' high with a 3' by 4' mirror at the top and a 30" by 40" mirror at camera height. Both mirrors rotate freely and may be locked at any angle. For a down-shot the top mirror is adjusted to reflect portions of a scene from its high point into the lower mirror from which the camera picks up this secondary reflection. Thus, if in a dramatic show a producer wishes to include a shot of an escaped convict hiding on a rooftop as "seen" by another character from a higher building or window, the designer builds the scene practically on the studio floor—possibly forcing all perspective lines of chimneys

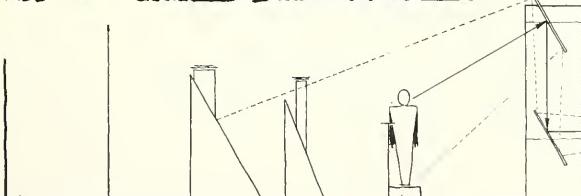


A dramatic and effective shot from a Philco production obtained by the use of a double-mirror device. The camera shoots from normal level.

SPECIAL
SCENIC
EFFECTS



MIRROR SHOTS



Special scenic effects are created in the TV studio by the aid of an adjustable double-mirror device. Note that the rooftops are built low on the studio floor to permit both high-level and eye-level shots.

and gables upward—and the double mirror, whose top unit is nine or more feet in the air serves to increase the illusion.

The device is also adaptable to usage in studio-produced musical programs and is especially applicable when novelty or angle shots are required for variety during long arias or instrumental numbers.

SILHOUETTE EFFECTS

Because small elements of profiled scenery can be integrated into silhouette effect shots, the designer has a substantial equity in this process which presents many artistic possibilities for the treatment of both near-realistic and stylized settings. In operation a translucent screen, usually stretched on a frame approximately 9' by 12' is masked by scenic units or drapes and a single powerful light source (a 1000-watt spot) is directed toward it from the back. Performers work fairly close to the screen for realistic effects with sections of profiled wall board or plywood serving as scenery or props.

It will readily be seen that moving the position of the light source can provide distorted effects for modern ballet numbers or variety shows. It is conceivable that shadow shots can play a contributive part in mystery or horror serials. Note that pieces of profiled scenery or props do not require painting.

While a thin cotton seamless fabric, tinted light blue, can be used in the shadow-graph process, engineers at some stations insist on the employment of a plastic screen which has a higher coefficient of translucency. When necessary a rear-projection screen may be used for silhouette purposes.

MINIATURES

Models. Miniature sets and dioramas have a place in television inscenation but their use in live studio programming is limited by cost, difficulties in lighting small-scale objects and by the lack of preparation time.

Miniatures obviously cannot be executed rapidly in the same way that sets or props are assembled, because a substantial amount of skill, patience and care must be expended on the most minute details. Models to be at all effective must be constructed precisely to scale—or must seem to be, since the modelmaker relies somewhat on guesswork and instinct in executing and rendering—because rough approximations of dollhouse quality show up on the system as palpable fakes. Generally, miniatures of exteriors are more illusive than interiors because in the former the viewer cannot so easily compare the relative sizes of details.

It would indeed be helpful, preceding a production of, say, an hour's version of *The Hound of the Baskervilles*, to open the program with an atmospheric shot of a miniature of Baskerville Hall, complete with fens, foliage and fog, lighting effects, mood music and superimposed titles. Generally, however, the cost of making a carefully scaled, three-dimensional miniature setting requiring detailed architectural treatment, leaded glass windows and landscaping is prohibitive for a production adjunct that is shown on the air for only a few seconds. A retouched photograph or a painted illustration is a satisfactory and less expensive substitute, although such effects as smoke pouring from chimneys, lighted windows and trees bending in the wind can only be suggested.

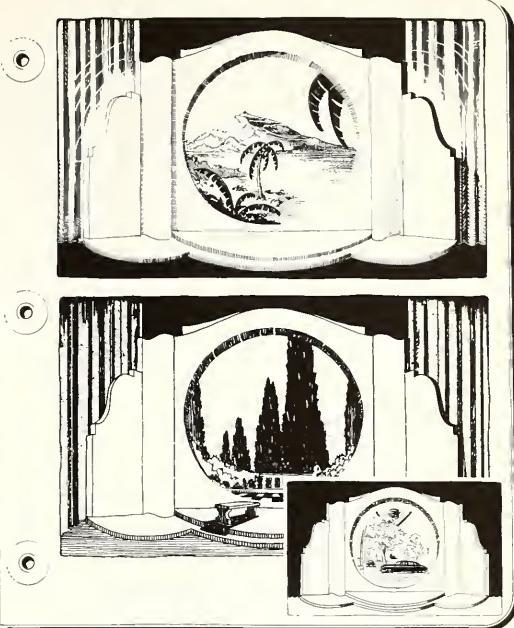
When miniature settings or dioramas must be used, they should be constructed of such lasting materials as thick cardboard (illustration board) plywood, plaster of Paris, balsa wood, papier-mâché and thin metal (when practicable) so that basic parts or the armature of the miniature may be saved for subsequent usage or adaptation. An expert modelmaker could probably turn out the Baskerville job in five days if he were allowed freedom to simplify details and foliage. Considering cost of materials

and union labor, as well as collateral work performed by carpenters and scenic artists, this particular model would cost at least \$275 to \$350. A slide of a retouched photograph might run from \$15 to \$35. A carefully and realistically rendered sketch would cost under \$75.

Miniatures may also be used as camera mats, with actors appearing behind cut-out areas. Perspective in the full scale background against which the performers function must of course be compatible with that of the model, a difficult projection to make on paper. An optical view finder with lens adjustments calibrated to local lens usage is an essential adjunct for planning a combination miniature mat, or any other type of camera mask requiring correlation with life-sized settings. Its application, however, presupposes the existence of a substantial bit of information concerning (a) camera lens to be used, (b) distance from camera to mat and mat to live action backing, and (c) size and shape of mat, aperture in mat and dimensions of the action background. To avoid the wholesale employment of mathematicians to work out these knotty problems, artists in actual practice fabricate the miniature or mat first, set it up at an arbitrary distance from unpainted scenery, view the whole through the finder, placed approximately at the point indicated for the studio camera, and make adjustments in placement and position on these bases. With distances established, the designer directs scenic artists who charcoal a cartoon on the full scale background within the areas actually viewed through the finder.

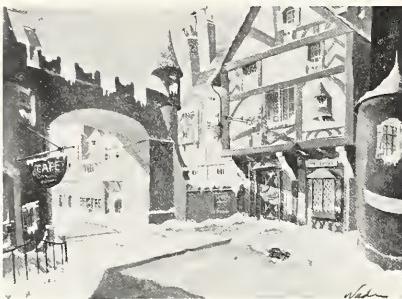
REAR PROJECTION

Still and Motion. It is difficult to say whether rear projection is merely another adjunct to television production or actually a process that could under certain conditions replace, especially in musical and variety programs, 60% of all heavy, conventionally



A sketch indicating how rear-projected material may be used in conjunction with a small permanent setting for low-budget vaudeville and variety programs. The circular opening in the center masks a 9' by 12' projection screen. Performers work principally in front of this area, but after establishing the scene, cameras dolly in for closer shots. When performer exits right or left, slide is changed and another "set" established. Insert, a commercial, possibly utilizing projected motion pictures and featuring a "live" commentator. The main set, used for every performance, is textured in a neutral tone and could carry lettering or displays featuring the sponsor's name or products.

painted scenery. In the small station at least, if favorable conditions prevail, the projection on a plain screen of enlarged photographic or rendered material would seem to provide an economical staging method of obvious versatility.



For certain types of programs, photographic material is too tight and detailed for rear-projection usage, and artwork is executed for this purpose, usually in a posteresque or stylized manner. Frequently the art director can use original rear-projection artwork for title backgrounds in the same program. The rear-projection drawing, above, was also filmed for titling purposes, with added animated snow processed over the entire shot.

In this process, a projector manufactured expressly for the purpose projects an enlarged image from a 4" by 5" transparent slide on the back surface of a translucent, cellulose acetate screen placed at a distance of 15-18 feet—depending on screen size—from the projector lens. An arrangement of 45° mirrors may be used to decrease the distance range, but when this is done there is a consequent light loss. From the front of the screen the television camera picks up the image in relation to physical scenic backgrounds and performers.

Used with common sense and artistry, the rear-projection process can be adapted to many purposes: elaborate exterior or interior backings behind doors, windows or other openings, special effects, scenic vignettes or atmospheric phenomena of an apparently static nature such as rainbows, views of the moon, clouds, and stars. Or the projected slides can themselves be employed as settings, particularly for variety, vaudeville or

other programs consisting of short, episodic scenes. This may be done by the expedient of constructing a definitive or decorative mask around the supporting frame of the projection sheet.

In dramatic and other realistically staged programs rear-projected images of course are most valuable in suggesting vistas which seem to extend beyond the physical limitations of the sound stages. The edges of the screen are masked by door or window openings in interiors and by trees, bushes, built-up ground or rocks in exteriors. In nearly all instances slides are developed from stock photographs, which must be selected carefully to blend with other subject matter in the front setting. In certain cases, new photographs must be taken if specific signs or props must be included for script reasons. As an alternative, when it is impossible or impractical to photograph details on location, stock photos withdrawn from the art director's file or leased from a press agency are retouched carefully and realistically. For example, it would be difficult to find a photograph of the Old Riddell Homestead in Norwich, Conn., flanked by a signpost with the legend Whortleberry Lane, because neither house nor byway exists except in the mind of the scriptwriter. Since a rendering of building and sign would look too painterly as a "blown up" back-projected image, the designer secures a photograph of a typical homestead of the right period and atmosphere and adds required matter, relying on suggestion and understatement, with airbrush and opaque watercolors as realistically as possible.

In selecting originals for projection material, the designer must make certain that perspective and scale in the photograph will be relatively correct within a few inches when the subject matter is enlarged some 25 times. The perspective itself will not be modified by enlargement; by placing a piece of tracing paper over the photograph and plotting points at which extended receding parallel



A demonstration of Trans-Lux Tele-process rear projection arranged and photographed in a live TV studio by Douglas Sterling Paddock with Marjorie MacDaniel and Donald Clark as models. In actual practice, scenery usually masks the edges of the screen. Note the value range and realism of the projected photographs.

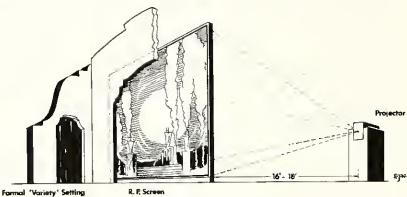


A formal "variety" or presentational setting arranged with a rear projection screen for a series of low-budgeted musical programs. Masking scenery is covered with velours or treated in other textures. If the show is presented for a live audience, top portions (not necessarily seen "on camera") can carry advertising displays.

lines appear to meet, an eye level can readily be established.

But the more difficult problem is determining the scale of the original so that the height from stage floor to eye level and the proportion of objects near the plane of acting or performing areas on the stage can be prognosticated. (See chart on page 125.)

When rear projection is used in vaudeville or revue programs, perspective, scale and proportion, while not negligible features, are relatively unimportant even if subject matter is realistic. Here the accent is on quick, suggestive impressions, and obvious distortions showing physical objects over- or under-size are likely to be helpful in creating production style. It goes without saying that these deviations from fact should be developed



A diagram indicating the relationship between a formal setting and a 9' by 12' rear projection screen and projector.

with intent rather than through error, although, to be candid, designers can often take advantage of chance arrangements that provide accidental combinations of light and shadow or unintentional inversions or reversals of slides. Since not a few scientific discoveries were made accidentally, it is surely ethical for the designer to capitalize on visually attractive boners when he can.

Normally in revues, rear projected artwork serves not so much as a mere backing as the setting itself. Because it is difficult (but not impossible) to store and assemble pro-

jection screens larger than 15' by 20' or 18' by 24' it is frequently advisable to employ a smaller unit, 9' by 12' or 12' by 16' and mask off the sides with decorative scenery which, on an across-the-board or once-weekly show, can be repeated and in itself become a part of the program, like a music theme or visible signature. It can readily be seen that most variety or night club acts could be effectively staged against such a background, with a rear-projection screen in the center, providing a suggestion of locale which, while a camera picked up the master of ceremonies or performers "taking a call" at one side, could be rapidly changed from Chicago to Chichicastenango by the insertion of a new slide. The economy of this presentational method is obvious.

Highly stylized designs, scenic fantasies and cartoons are projected as easily as realistic photographic material. The frank employment of this technique used in conjunction with neutral or conventional nonrealistic scenery as a frame should enable many low-budgeted shows to survive successfully without a carload of bulky scenery and physical trappings that not only increase operating labor costs but which frequently get in the way. In a medium like television, in which all production techniques are ephemeral, the projecting of images on a receptive screen that requires no rebuilding, reassembling or repainting after each usage should have a very promising future.

There are, of course, certain things that rear projection cannot provide: there is no natural movement in the projection of still pictures (although moving effects such as water ripple, clouds, fire or smoke can be imposed by projection on certain land- or sea-scape images from conventional effects apparatus) and actors or performers cannot, of course, enter through doors, ascend steps or sit on projected chairs. Material for projection is inexpensive as compared with built scenery but beyond the cost of slide proc-

essing, producers must consider the price of photographs (many of which, because of the nature of production, are of unusual subjects), the labor costs of retouching or of original artwork. Thus six or seven photographic slides for a low-budget revue, including allowances for material, retouching, other handwork and the actual processing could cost from \$75 to \$125. Of course, vignette sets of painted scenery of the same size would doubtless cost ten times as much.

Because there is a frame-per-second rate differential in motion pictures and television, early attempts to employ the rear projection of film were less than satisfactory, but by 1948 engineers succeeded in making these rates compatible and a new dimension became available to producers. Rear-projected motion pictures are not precisely the concern of the art director or designer, unless the art department has a hand in the designing of backgrounds in specially made films, but all artists should understand the value of this



A scene played on a platform of a San Francisco cable car from the *One Man's Family* program, NBC, which utilized rear-projected motion pictures to create an illusion of motion and atmosphere. As the street and building seem to recede, traffic keeps pace with the movement of the car. Designed by Carl Kent.



In selecting rear-projection material from an 8" by 10" glossy photographic print, the designer lays out only that portion which can be enlarged in scale with the physical setting. Several trials are often necessary before the correct useful area can be established for processing on a 4" by 5" rear-projection slide.

technique, which not only permits the producer to provide realistic backings within the restrictions of the sound stage enclosure but allows him to add movement to these atmospheric vistas.

In the films rear-projected motion pictures are used extensively. They permit scenes in moving boats, trains or taxis to be shot under controlled conditions. Only basic mock-ups, a film projector, and the projection sheet are required for scenes that would be impractical to stage in actual surroundings; for example, close shots of spacemen in hair-raising exploits atop a flying saucer. Here a portion of the superstructure of the spaceship is constructed on the sound stage and shot against clouds, rockets or astral bodies moving in a predetermined direction and at a pace consistent with interplanetary travel.

The rear projection of film normally involves the use of properly selected and cut film clips from stock sources, but on occasion

special film is made. Film can be "looped" for such shots as slowly moving clouds, ocean scenes, trees in a storm, and so on, although when this is done there is of course a constant repetition of the same shot.

The more spectacular, but not necessarily more complicated, effects, such as in scenes showing a girl and man in a taxi during a chase sequence in a Chinese city, can be shot in the studio with a mock-up taxi and rear-projected clips of stock film showing vehicles, pedestrians, and intersections "passing by." The film, selected for directional movement, action, speed and proper atmosphere, is of course scanned by the television camera as it picks up shots through rear or side windows. In film work, the same type of screen is employed as in the rear projection of stills. Works cited in the bibliography explain further details of this important special effect.

Both designers and producers should un-

derstand the many lighting problems incidental to rear-projection usage—in stills, motion pictures, silhouette effects—because front lighting, unless carefully controlled as to direction and intensity, can wash out the

projected image. Too, in realistically staged scenes directional lighting should not be arranged so that shadows of actors are cast against the projected image, planes of which may be miles distant from the playing area.

RULE-OF-THUMB METHOD OF DETERMINING RELATIVE SIZES OF OBJECTS IN REAR-PROJECTED IMAGES

If still rear projection is to be used in realistic settings, objects shown in the image must be related to physical backgrounds or to the human figure, allowing of course for the diminution in size caused by apparent distance or perspective.

The artist or layout man essentially needs to know how many times a certain area of information on a photograph or drawing is to be enlarged. Because rear-projection slides are 4" by 5" he must establish this information within a rectangle the height and width of which have a ratio of 4:5. Since width is generally more important than height in this type of enlargement he divides the base of the rear-projection screen by the number of inches in the base of his established rectangle. The resultant figure represents the number of times the information is enlarged. For example, if information in a photograph measures 5.6" by 7" and this material is to be enlarged on a 9' by 12' screen the factor of enlargement is 20.6 or $144"$ divided by 7".

The following steps are necessary:

1. Select information in a 4:5 ratio and measure dimensions of this in inches.
2. Select some object in any plane of the information of which the actual dimension is known or can be estimated or computed. Obtain at least one dimension of this object in inches. Allow for diminution in size because of perspective.
3. Divide the number of inches in base of frame by number of inches in base of rectangle to secure factor.

4. Multiply dimension of object by factor to obtain enlarged size in inches.

For example, a designer wishes to back a large window and door of an interior setting by rear-projecting an image of a house, fence and tree, presumably across the street or approximately 40 to 50 feet from the wall of the full scale setting. He finds this information on an 8" by 10" photograph and selects useful material which measures 6.4" by 8" (4:5 ratio). Selecting the height of the fence as a known quantity and assuming that it is approximately 3' high in actuality, he figures with normal perspective that it should appear on the screen as approximately $1/3$ of its actual height.

The designer establishes the factor of enlargement: 144 divided by $8 = 18$.

The height of the fence in the photograph information is $3\frac{1}{4}$ "; thus 18 times $3\frac{1}{4}$ " = 13.5 .

Therefore, the fence in the projected image will be approximately $13\frac{1}{2}$ " high.

Since a designer has figured that the projected size of the fence could be around 1' high, the $13\frac{1}{2}$ " figure is close enough for illusion, since all other objects in the photograph information will be enlarged relatively.

If, however, after a trial computation the enlarged dimensions of any object are not satisfactory, the designer has to go back and increase or decrease the size of the original rectangle, adding or eliminating information.

Film Sequences in Studio Programs

The following is quoted from the NBC Staging Services Handbook, 4th Edition:

Certain scenes in live studio production cannot economically or effectively be set on a regulation sound stage. Exterior sequences, especially those showing large expanses of water or other out-of-door, full-scale backgrounds, are frequently shot on either 16 or 35mm film and interpolated into studio-produced portions of the program. If characters are shown first in the film and subsequently in live scenes, special attention must be paid to details of costumes and properties. This is particularly necessary if film shots are closely related in sequence and time.

Film:

- a. Car is driven up driveway . . .
LIVE SOUND (not on film): Auto on gravel.
- b. L.S.—Car arrives in front of house; Georgian portico—columns—“Southern” type mansion.
- c. Shot—Man and girl leave car; camera pans with them to door; girl reaches for bell . . .
- d. C.U.—Girl pulls bell . . .
LIVE SOUND: Old-fashioned doorbell.

LIVE:

- e. Cut to C.U. of old-fashioned bell vibrating on spring. Plain backing.
- f. Medium L.S. of maid opening door—man and girl enter . . .

In this apparently simple series of scenes, several complex factors must be considered: the film for the a to d sequences would normally have been shot four to six days prior to the live presentation, and clothes or accessories worn by the two characters must be retained. The scenic designer, in creating the



In the Philco program Parnassus on Wheels, exterior shots of the horse-drawn bookhouse were filmed on location with the same actors who appeared in live studio sequences. Designer Otis Riggs designed the wagon so that it could subsequently be assembled in the studio, and film was closely integrated with live portions.

studio interior setting, must make details compatible with the filmed exterior. The inside of the Georgian door must of course give the appearance of being the same door as in the exterior film shot, taken on location. In order to design the live set satisfactorily, the TV designer must either see the film location and “still” photograph details or adapt the matching set from film rushes. Frequently, the designer must tie in live studio settings with stock film shots of public or historic buildings, parks, street scenes in various cities, and so on.

Kinescope Recordings

Special care in the design, painting and lighting of productions that are to be kinescoped (filmed directly from the image

on the face of the kinescope tube) is indicated because, in the process, there are losses in picture quality. These degradations may be expressed as follows:

1. Initial transmitted image (camera to kinescope tube).
2. Image to film.
3. Subsequent retransmission of image on film.

As a result, spotty studio lighting, large areas of blacks or other darks and the theatri-

cal use of a brilliant spotlight focused on one performer against a dark curtain, or without other stage lights, are impractical for kinescope film purposes. In working on scenery the painter must provide contrast in his gray-scale values unless he purposely wishes certain portions of the setting to fade into the background. It is highly desirable that engineering personnel assigned to this specific field have opportunities to make suitable recommendations when "kines" are to be produced.

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Scenic artists at work on an exotic background for ABC Television. Note the firm lines of the charcoaled cartoon, developed from a painter's elevation provided by the designer. The castered palette, right, may be freely moved from place to place in the paint shop.

Six scenic artists working simultaneously on a drop suspended in back of the giant electrically operated paint bridge installed in an American Broadcasting Company shop. Artists can "lay-in" and complete a 20' by 44' drop in a day by starting at the top and lowering the bridge as they finish details. In some shops, drops move vertically on a paint frame to permit painters to work at eye-level.



SCENIC PAINTING

TV CAMOUFLAGE

IN ORDER to bring to completion the scenic and other artistic effects conceived by the art director and designer, a dozen or more other specialists, artists and craftsmen are required in television production to execute various portions of the work. Two of the executing groups, both of which, by the very nature of their respective fields, originate and provide vital, basic and creative ideas, are discussed in this and the following chapters: the scenic painters (who prefer to be called scenic artists) and the graphics group, illustrators, cartoonists, letterers, retouchers and draftsmen.

Scenic Painting

Since the early dawn of the drama there have always been planners and innovators of theatrical décor, and although scenic design as we know it today is essentially a 20th Century development, scenic painting may well be a trifle older by, at least according to some authorities, a thousand years. At any rate, it is an old and hoary art-form the basic techniques of which certainly were developed and

perfected during the Renaissance in Italy and in middle Europe. A relatively unimportant craft in itself, theater producers from Goethe to the Theater Guild have taken time to investigate, criticize and revivify it.

Many artists—students, commercial men, well-known easel artists—have a tendency to look down on scenic painting, perhaps because they consider it mere decorating, which in large measure it is. Consequently they underestimate the amount of skill required to execute pictorial work. To be sure, scenic painting, before designers cleaned it up and improved its linear and tonal quality, frequently produced works of doubtful art with muddy turkey reds, burnt umber browns, and the scenic artists' beloved but nauseous Dutch Pink. But under control, this large scale kind of painting, if well executed, is a technique that television cannot ignore; for indeed, as will be demonstrated, scenic painting is more than an adapted pictorial method. Utilized properly, it also effects a necessary and illusive camouflage. The superficial and textural aspects of scenic painting are important in all photographic media.

One of the problems inherent in construct-



Working from a painter's elevation, NBC-TV artists execute a panelled Tudor interior set, made of standard, stock modular units. Note the use of the bevelled lining or ruling stick. This stick is used also for the transferring of dimensions which the artist marks with chalk or charcoal directly on the ruler.

ing and painting sets for any medium is that the completed job, except in palpably modern, streamlined, "functional" interiors, looks too new, too clean and unived-in. Another is that textures and surfaces of supposedly different materials look alike and reflect light in the same manner. In the theater, these issues are not particularly important because the world behind the proscenium is one of frank illusion: there is on the part of the audience "the will to believe." In movies and television, normally realistic and photographic media, sets that might be effective and credible under the spell of glamour and persuasive lighting look thin, anemic and characterless.

A quick analysis reveals the obvious reasons: most settings, always excluding super-colossal Hollywood replicas which probably cost more than the originals, are constructed of certain light, easily worked materials that are not mere substitutes for the real thing

but are actually in many cases substandard and essentially nonstructural. Examples are muslin, duck and canvas, various $3/16"$ display or wallboards, papier-mâché, cheap plywood, and even paper. Plaster mixed with strands of hemp for added strength as used in motion-picture production is not normally practicable for television walls, beams or moldings. Nor in television can workmen add plaster or wooden ornaments, apply heavy moldings, "trim" or wallpaper directly on the sets in the studio. As a result the ancient art of scenic painting, aided by illusive lighting, must attempt to supply certain requirements for the present until other production methods are devised.

Fortunately, to a degree, scenic painting performs some minor miracles in deceiving the electronic eye of the camera. It suggests textures on plane-surfaced, graceless materials and its many techniques camouflage and soften the superficial coverings and hard edges of carpentry hastily assembled. In the luminous glow of color television, scenic painting as a process will accomplish even more than in black-and-white; but it is in present-day achromatic work that the real problems of creating successful and illusive backgrounds exist.

The following outline briefly describes conventional scenic painting methods and techniques. While the tabulated material is intended for general reference only, rather than as a guide to practical application, as much detailed information as possible is included in the allocated space because chapters on scenic painting in most stagecraft handbooks are noticeably skimpy and evasive, for reasons that will be discussed later.

Scenic Pigments

DISTEMPER OR DRY COLORS

Doubtless scenery in the past has been painted in all known media, including flat



Floor painting at the BBC, London. With the setting partly in place, artists provide a textural treatment for the stage floor, frequently laying-in colors directly on concrete or linoleum. When time allows, paper is sometimes pasted to the floor over a shellacked and waxed surface and subsequently stripped off after being painted. The special long-handled brushes are made for painting scenery flat on the shop floor, a method used in stations that have no bridge or paint frame.

drying oil mixtures, but for at least a century and a half the use of inexpensive "cold water dry colors" has been fairly standard. These dry or distemper colors are basic earth or chemical pigments of intermediate and harsh tones that include a palette of hot, unpleasant browns, screeching yellows, an assortment of half-caste, putty gamboges and pinks, a hard blue-violet (ultramarine), varying warm and cold reds, a rather beautiful turquoise (Italian blue), medium green and two soft, grayed yellows, yellow ochre and raw sienna. In preparing paint for use, the scenic artist adds measures or scoops of colors (old style painters lifted and measured pigments from bag or barrel in their cupped hands to keep the powder loose and free) to a glue and water mixture which acts as a

binder. Since the pigments vary in weight and density no rules have ever been formulated as to the correct amount of glue to be added to, say, a 10-quart mixture. Animal glue, usually prepared in flakes, although low-grade gluesize in granules can be used, is of uncertain strength; age, moisture content, degrees of refinement are determining factors. It requires soaking and heating in a double boiler until reduced to a liquid state. It decomposes rapidly in warm or damp weather, perhaps more rapidly after mixture with paint. Decomposition is accompanied by loss of binding or "sticking" strength and a terrible, terrible smell.

Lacking a definite formula (although a half pint of melted flake glue to a 10-quart bucket of pigment and water is normal) the painter usually tests completed mixtures literally by a rule-of-thumb method: He dips his forefinger and thumb in the paint, shakes off excessive color and after a few moments presses thumb and finger together. If they stick slightly, the mixture is said to be "tacky" and ready for application. If too much glue is used the paint will peel off; if too little, it will "rub up" or powder off.

Tints are mixed by adding calcium carbonate (whiting), zinc oxide (zinc white) and other dry whites to the basic palette colors. Lampblack may be used but requires the addition of denatured alcohol before it will mix with water. A "drop" or "vegetable" black mixes readily. Good warm or cool grays can be developed by the admixture of near-complements (such as burnt sienna and ultramarine blue with whiting) in varying amounts, and sepia tones made by combining whiting, black and some of the warm browns, such as burnt umber. For fine pictorial scenic work colors of high intensity and relative purity are made for the trade in "pulp" form (ground in water with possibly small amounts of glycerine); many of these scenic colors contain dyes. Their use is not indicated in black-and-white television work.

CASEIN AND "PLASTIC" PAINTS

Although most scenic artists prefer to work with dry colors and glue binders because color areas in the completed "stretch" can be blended and softened with brush and hot water, the new casein and plastic prepared paints are much more practicable for television production. A well-known paint manufacturer has worked closely with television artists and now includes on his color charts not only standard scenic hues but special deep tones that have known responses on the graded gray scale. The casein paints, which are sold in paste form, mix with cold water easily and require no added glue binder; thin coats cover previously painted areas very efficiently, dry quickly and since the casein binder is insoluble in water when dry, undercoats do not "rub up." These colors do not contain dyes (such as are found in the dry color lakes) which persistently "bleed through" successive coats. Casein or plastic paints that contain large quantities of tung oil and various resins should be avoided because these materials cannot be conveniently removed from scenic brushes by washing in soap and water.

Essentially, casein colors are "house paints" and while the deep tones recently added to stock tints extend the range of values and tones, these pigments are not ideally suited to pictorial work because the artist cannot mix dry colors with varying amounts of the vehicle as he does in rendering with old-fashioned scenic colors. However, house paint colors are perfectly all right for decorating interior sets and their ability to cover and to dry quickly is a great advantage. There is also in well-ground casein colors a high degree of uniformity not available in distemper paints because purely local conditions and the changing chemistry of the glue binder alter different mixtures of carefully measured colors.

Casein colors can be mixed faster than

distemper because only water needs to be added to admixtures of the former to obtain a thin consistency. Thus in a large shop several man-hours per painting period can be saved for productive artwork, whereas the dry colors must be slowly added to water, stirred and beaten and slowly brought to proper consistency. The chargeman can also be reasonably sure of making up new batches of color from the prepared casein paints that will normally match established stock tones and values. Matching samples of previous mixtures in distemper requires an expert and even he cannot always adjust for glue variations.

Balanced economically, at present-day prices, the once cheap and lowly distemper costs as much per mixed gallon as the newer, plastic paints, and it is likely that the latter last longer and actually measure for measure cover a larger area. They do not spoil readily and unlike even freshly prepared scenic colors have a polite, laboratory odor. But distemper, because its glue binder is slightly elastic, is best for drops, especially those that must be rolled or folded. Both types of paint are basically flameproof and fire-retarding.

BRUSHES

The scenic artist works with fairly stiff brushes, made expressly for the trade, usually of Russian or Chinese boar bristle when it is available. However, conditions have been such in the Far East of late that few boars have lived to maturity—food shortages have made young boars attractive—and imports have decreased. Nylon bristles are gaining some acceptance as a replacement, although the ends do not split like natural "hair." Scenic tools are expensive and range in price from \$18 for a three-inch "foliage" tool to \$50 for a priming brush. Smaller brushes or "liners" are relatively priced. It should be noted that brushes used in watercolor have long bristles of great resiliency; ordinary oil-paint tools are rarely satisfactory.

SPRAYERS

Air brushes and paint sprayers are especially applicable to television painting since they produce soft gradations and blends of interesting subtlety. Aging and antiquing may be handled quite efficiently with the spray technique. Any type of compressor and "gun" designed for water paints can be used, from small, hand-carried units to those requiring 4- and 5-horsepower motors and castered truck and tank. While fumes or airborne, dried particles resulting from spraying any kind of scenic paints are not known to be harmful, operatives should wear masks to prevent possible injury to the respiratory system. On occasion, the small poster artist's airbrush can be used in scenic work, especially for highlighting and touching up. Since this tool is too delicate for the coarse scenic colors, poster colors or the new casein paints, now prepared in considerable ranges of refinement for easel artists may be employed. Because sprayed paint partially dries in the air before reaching the surface to which it is directed, and as a result is likely to "rub up," it is usually better to "lay-in" or prime all large surfaces with a brush. While unions may limit brush sizes, expert scenic artists nonetheless can cover enormous stretches in short order.

Methods of Scenic Painting

There are several basic physical methods of painting scenery. In Europe and occasionally in America, the elements to be painted are laid flat on the floor of the paint studio and operatives, armed with long-handled brushes and rulers or straight-edges calmly walk over the artwork they are executing, hopscotching wet portions with some agility. In England and America most scenic work is done on a paint frame on which units or drops may be fastened in a vertical posi-

tion with consequent savings in real estate. A paint frame is a gigantic easel, often 30 feet high by 60 to 80 feet long that hangs from a counterweighted set of lines and drops through a long narrow trap in the paint studio floor. Several artists painting on a stretch can always work at eye level by adjusting a winch which raises or lowers the frame.

However, motion picture and television scenery does not always fit on a frame because certain units have permanently attached reveals, thickness pieces or other protruding three-dimensional adjuncts; as a result, sets constructed of these scenic elements are more efficiently painted on the sound stage after assembly. Since most large television stations have insufficient studio space for this operation, the painting of this type of scenery is usually done in a trial setup area adjacent to the carpentry shop. Subsequently, after disassembly, trucking and final setup in the studio, a scenic artist supplied with a miniature paint shop on casters touches up details, scratches and crack-masking (strips). Painting on pre-set scenery must be executed from ladders or "boomerangs," which are castered platforms of various levels so arranged that painters can work at convenient heights. Or, if the sets are small, artists can efficiently use lightweight, 8-foot stepladders. Most television scenery for sound stage usage does not exceed 10 feet in height.

A variation in the vertical process of painting of scenery involves a flying bridge which, extending the entire length of a stationary paint frame, elevates men and material to necessary working heights. Although more expensive to install than the counterweighted frame, the elevator bridge system is a practicable solution when the placement of floor beams in an existing structure does not permit the cutting of a trap in which a movable paint frame may be hung. All scenic painting techniques except one may be applied equally well in all methods. All theatrical scenery and most types of scenery

intended for theater-studios can be painted on a frame; but solid, plywood settings of the type used in low-budget films and on television sound stages usually cannot. In small stations, painting execution is most economically handled after a trial setup.

Scenic painting techniques, already described as devices to obtain illusive effects and to camouflage characterless and uninteresting surfaces, may be listed in these categories: Pictorial, Decorative and Technical. Although of course the three approaches are used simultaneously and interchangeably, it is convenient for definitive purposes to create arbitrary categories.

Pictorial Scenic Work

Pictorial scenic work involves the sketching and rendering of any subject or groups of subjects, landscapes, street scenes, etc., on any type of scenic surface. Usually the intent is to copy nature and the process is much like that of painting any other picture except that scenic work is larger. Details in the foreground are usually life-sized. Great attention is paid to both linear and aerial perspective and to a photographic style in rendering as opposed to the cruder, more suggestive techniques effective in the theater. For both black-and-white and color television, the ideal approach to realistic results seems to be the soft-edge treatment of adjacent tonal masses and subtle blending of one value into another—in a word, the television scenic artist attempts to render in a blurry, "out-of-focus" manner. In pictorial, representational work every precaution must be taken to prevent the critical, eagle eye of the camera from recording scenic information of which the details are painty, patchy or labored. Color systems by their very nature tend to soften painted backgrounds and in general to give life to rendered details; black-and-white does not. It was easy to paint scenery for the old

iconoscope cameras because backgrounds went out of focus in a rather pleasing manner. Present-day cameras with their image orthicon tubes and different types of lenses can, because of their depth of focus, pick up stagehands' fingermarks on a medium gray set at thirty paces.

Since dried watercolors, particularly those ground in a casein binder, are difficult to soften and blend, certain types of backgrounds are painted in black, sepia or dark blue dyes on muslin drops. Thus when light values are needed, less dye and more water are used; when dark areas are rendered, several washes of dye may be applied either evenly or characteristically mottled until the proper value is built up. This "painting" method, involving the use of aniline dyes, is an interesting development which seems to have great possibilities in color television, particularly as drops so rendered may be lighted from the back for certain effects.

One very effective use of dye drops in musical shows or occasionally in commercials is an adaptation of the theatrical "transformation scene." For this effect a drop of very light material is painted in aniline dyes. When it is lighted only from the front it is opaque, but when illumination is brought up from behind, actors, dancers, and backgrounds can be picked up by cameras shooting through the near-transparent curtain. Ordinarily, there is no great point to the employment of this device in television because normally a similar effect can be achieved by superimposition; however, transparencies are adaptable to theater-studio programs, especially when all cameras are "out front."

Dye work is expensive and requires much skill and care on the part of the executing artists. Interesting effects can often be obtained by combining dye painting with opaque pigments; thus when a transparency is effected the opaque portions appear to float in space.

In blending and softening pigments in painted areas on drops or framed scenery, air brushes and compressed air sprays are invaluable aids.

Theoretically, pictorial painting is not ideal for a photographic medium like motion pictures or television. Practically, because the work may be quickly done with reasonably fair to adequate results, the process certainly will be applied for some time.

Decorative Painting

It is quite a different matter in decorative painting. Here the artist is rendering the geometric, the abstract, the architectural rather than brooks and trees or clouds, hills and distant buildings. While his work must frequently be representational (moldings, panels, various interior wall treatments, etc.), the matter he is reproducing in terms of light and shade has a certain man-made quality that makes a suggestive, painted copy believable. Wallpapers, wall fabrics, many textures, plaster and stucco and a great deal of architectural ornamentation can be effectively rendered on television scenery except in those areas directly backing a close-up shot. As in pictorial work, soft effects are the best, especially in the lining up and shading of painted panels, dadoes and all moldings. Good results are frequently achieved by the artist's working with paint that has been thinned with water to a semitransparent consistency.

Much of the scenic work executed for revues, variety and other musical programs in the styles already described in Chapter 3 is decorative. The producer is not concerned, therefore, if the settings look unrealistic or suggestive and under most conditions the designer and painter do not have the problem of simulating nature. But it will be readily apparent that in actual practice it is difficult, if not absurd, to try to separate pictorial and

decorative painting techniques: several differences have been pointed out here for purposes of clarification, but it would be academic to continue because all types of painting are essentially conventional in the last analysis. And in this last analysis, if carried a step further, it may be determined in the very near future that, so far as realistic settings are concerned, photographic processes are more applicable than any painting techniques.

Texture-Producing Techniques

To this point scenic painting has been discussed in terms of perspective rendering or decorative painting on a plane surface. But this aspect of the work is relatively unimportant as compared to the purely technical approach, which is important and of continuing value not only to achromatic telecasting but to all future color production. It has been explained that one of the most difficult tasks in devising television settings is to make



Even though a background is similar in value to that of costumes or skin tones, a textural treatment can often provide separation.

hastily constructed walls, beams, props, and floors register correctly because of their lack of definitive surface. Painting techniques must simulate characteristic textures on flat scenic elements. It must be understood that texture-producing techniques listed below are also used for the same purpose in pictorial and decorative painting. Again, the placement here is merely convenient.

FLAT "LAY-IN"

A priming coat of paint which dries without texture.

GLAZING

The dry-brushing of a lighter value over a darker base, useful in suggesting the textures of old timbers, metallic surfaces, draperies, stonework, etc. Glazing gives brilliance and interest and helps to break up and modify background value. This technique can be applied in antiquing both architectural elements and props. Light, repeated strokes of the brush build up a patina, especially if ren-

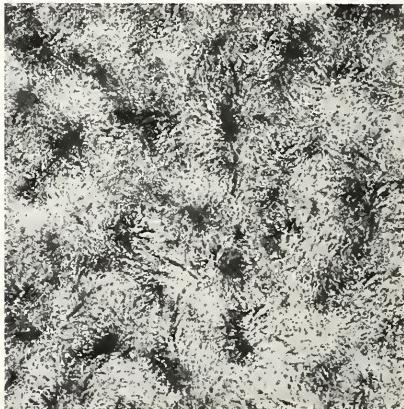
dered in paint of a thin consistency. The textures of fabrics, tapestries, plaster, and cork tiles are achieved by this method, sometimes combined with spraying or other techniques.

STIPPLING

The imposing of small dots, "points" or minute portions of one or more values over a basic tone. Stippling and spattering are extremely important in camouflaging, since the breaking up of any painted surface (in either achromatic or color) in small, irregular daubs tends to hide uneven planes, creases and necessary, exposed scenic hardware. Brush stippling is applied by dipping a medium-sized brush in paint and touching the canvas at various points with its tip, holding the brush at right angles to scenery. It is effective for simulating rough plaster, certain stonework or other very rough textures. Some scenic artists use this method to suggest distant foliage by "pounding" a partially dried brush against the canvas, but this effect is



Glazing. Light tones have been dragged with a partially dry brush over a dark-toned surface. The effect of scumbling is very similar except that the value of the tones is reversed.



Sponge stipple. A dark tone is patted on a dried lay-in coat from a flattened sponge. A coarse sponge gives a more open pattern and a rubber sponge a more even, finer texture.

mechanical and more than faintly redolent of barroom murals. Sponge stippling involves patting a partly charged sponge, one side of which has been flattened for this purpose, over a previously painted area of lighter or darker tone than paint taken up by the sponge. The results, especially if contrasting values or colors are used, are likely to be somewhat pedestrian, but the device is useful in painting cheap Chinese restaurant or poolroom interiors since this technique is actually employed by journeyman decorators. Careful stippling with a sponge in closely related, soft values does produce an interesting surface of pleasing neutrality. Paper-wad stippling provides an interestingly broken up, crinkled texture, and is especially good for small areas in decorative screens, props or in suggesting various metals. In practice, a wad of newsprint or other slightly absorbent paper is pressed against a small quantity of paint brushed on a board; the wad is then patted at odd angles against the scenic surfaces. Ragging requires two scenic artists who, after dipping a piece of soft cloth

into scenic paint and partially wringing out excess paint, jointly roll the twisted "tag" over a previously applied tone to achieve accidental effects suggestive of "oatmeal" wallpaper or medium-rough plaster. Other types of stippling effects are created with burlap pads, squared-off ends of feather dusters, even straw brooms and cleaning mops (see *Puddling*). Spattering, in effect, is a sort of stippling, although in this technique the paint is thrown or knocked from the brush in small dots. These "points" have a tendency to make a flat, plain surface appear solid, possibly because the eye (or the camera) cannot quite focus on a background that is so variegated. In color, spattering achieves clarity of tone by following the system of the Impressionists, who painted their canvases in brilliant daubs on the theory that



Stippling (newspaper wad). A flattened-out wad of newsprint is charged with paint and patted irregularly over the surface of scenery.



Spattering. A weak, watery mixture of medium gray has been spattered over a lighter lay-in tone, and a second coat of white spattered over the entire surface before the medium gray dried. An excellent treatment for large plain areas because it breaks up tones without appearing too definitely as a texture. This type of spattering aids in hiding necessary pieces of stage hardware, joints and accidentals.

at a proper distance the eye would "mix" colors reflected from the pointillage. A study of any Manet or Monet will reveal the method.

In black-and-white, however, spattering is a valuable camouflaging agent: dark tones spattered over lay-ins of light value suggest masonry, plaster, or adobe, and the basic lay-in tone spattered over completed artwork softens edges, corrects rough spots and hides errors, hardware and patches. Scenery spattered in varying values when still wet from the lay-in tone appears when dry to have an amazingly irregular, dimensional surface. This technique is best applied with scenery placed flat on the paint shop floor; otherwise, on a wet surface the imposed "points" will run.

That spattering is not so much an imitative technique as a corrective one was known to the early New Englanders who painted and then spattered their rough-hewn pine board

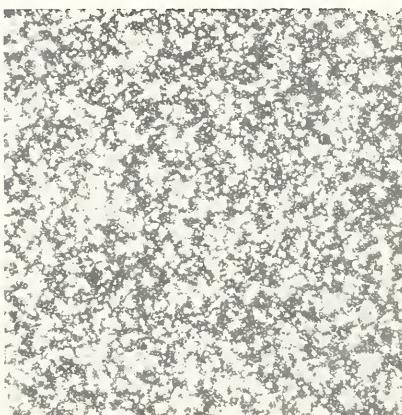
floors to achieve a superficial homogeneity. Josef Urban, the Viennese, and later, American designer, was one of the first artists to apply the idea to scenery. In achromatic television production a very clean, solid surface may be created by laying-in scenery in any selected tone, and spattering with a value just a little deeper or lighter than the priming coat.

SCUMBLING

The opposite of glazing; in scumbling a dark tone is dry-brushed over a lighter one to reproduce textures of boards, cement, tree trunks, draperies, etc. Glazing tends to lighten the tonality, scumbling to darken it.

PUDDLING

The one technique that must be applied with scenery laid flat on the floor. Elements are laid-in, while other wet tones are poured on the canvas and worked in with brush or



A contrasting spatter in three values suggesting stonework, cement, rough plaster, etc. Adobe effects are usually achieved by imposing dark tones over light and intermediate values. Spattering hides many irregularities in scenic construction.



Puddling. Three values of paint are allowed to flow together on the scenic surface and to blend accidentally. This operation usually requires that the scenery lie flat on the shop floor, although the effect can be approximated if the work must be executed vertically.

mop until a variegated and mottled texture is achieved. This is further allowed "to puddle" by the spattering of clear warm water (or additional size-water) and so to dry. Sometimes dry or damp paint is scattered on the drying surfaces and washed in with brooms dipped in size-water to produce accidentals. This inspired lunacy produces unusual effects, particularly textures suggestive of ancient stonework, and the technique is adaptable to the painting of old castles, churches and certain street scenes. The method is effectual in black-and-white, but its real worth will be demonstrated in color because of the subtle differences between those tones that dry in puddles and the tones that are thinner and more transparent.

WASHING

The quick brushing of a very thin coat of any color or value over a previously painted surface, useful for suggesting light or shadow.

STENCILLING

The application of paint through openings of an oiled paper mask. Stencils are cut in patterns that suggest wallpaper, wall fabrics and even certain types of brickwork and stone-work. Individual decorations may be stencilled or large areas filled in with repeated patterns and arabesques. In practice, the scenic artist snaps charcoal guide lines over areas to be stencilled and, placing the stencil (which has previously been shellacked to prevent water absorption) flat against the scenery, he lightly strokes over the open areas with a fairly dry brush. Tiny holes at the top or side of the stencil permit small dots of paint to register as key marks on repeated patterns. While stencilling may be done in two or more colors, most work for black-and-white is executed in one so that the results are not too busy and contrasting.

In making stencils, the design is usually drawn on white wrapping paper (one half the

pattern is sufficient) and transferred to a piece of oiled stencil paper. After all outlines are drawn in, "ties" are established so that delicate lines and detail are supported by adjacent material. All spaces which are to admit paint are marked with an x and carefully cut out with a razor blade or sharp knife.

There is a question among painters as to whether or not the unpainted portions of a stencilled pattern caused by the presence of ties in the original should be touched up or filled in after the stencilling process. This operation might be practicable on those parts of background to be used in a close-up, but in general the consensus is that leaving the tie-marks as they stand creates a fresher, crisper surface. Designs for stencils in television must be kept simple and as free as possible from distracting intricacies and convolutions. It is often difficult to judge the effects of a single pattern—no matter how simple—until it is actually repeated some hundreds of times on the walls of the setting when, unfortunately, the most innocent design may prolifically develop into a horror of busy detail. Spraying or even spattering the basic lay-in tone of the walls over questionable stencilling helps to soften contrasts and to subdue busyness; occasionally in dark, dramatic show sets the stencil color itself may be used as a tonal overlay.

GRAINING

The superficial suggestion of natural wood grains. It is difficult to execute in fast drying watercolors because its method consists of priming a surface with a light value, letting this coat dry thoroughly, and over-coating this with a darker tone which is immediately wiped and rubbed off with various types of combs and grainers' tools. When necessary, scenic artists grain with oil paints, but for most purposes they secure a similar effect by glazing or scumbling. If a glossy surface is required, a thin coat of white or orange shellac may be applied over woodwork.

There are of course many other scenic painting techniques and methods, but the foregoing material is basic and is included here to assist the art director and designer in understanding the processes of a difficult and rather esoteric craft. There are scores of books on all phases of production work, such as design theory, applied design, stage carpentry, costume design, and rigging. However, there are none at the present writing available on the craft of scenic painting except a curious, archaic work entitled *Scene Painting and Bulletin Art* by Frank H. Atkinson, published by F. J. Drake & Co. (1916), and a few pamphlets of English origination of about the same quality.

The Scenic Artist

Anyone with presentational ability and a slight talent for drawing and painting can learn to be a scenic designer—and possibly a very good one, granting he has intelligence, taste, and a tactile sense—by intensive study in a school of art or a university drama department. There are, however, no schools for the incipient scenic artist, the man who executes the actual painting in a style and manner as prescribed by the designer. As a result, most scenic artists now working in television or the theater started to learn their trade as apprentice boys, cleaning brushes, washing out buckets, mixing paint (union rules do not permit apprentices to paint until they achieve the rank of "student"), with collateral attendance at night art classes. As in other phases of theatrical activity, the scenic artists in true guild fashion wished to restrict the number of candidates for master jobs, and the period of apprenticeship was long; in many cases, young relatives were encouraged to join the ranks and "secrets of the craft" were kept within the family. Thus, techniques were handed down from artist to apprentice. Even today, the scenic artists as

a group have a somewhat anachronistic organization with its guild cant of chargemen, apprentices and journeymen, although their union (United Scenic Artists) is up-to-date enough in such matters as motion-picture and television production.

Scenic painting is hard work. It has none of the glamour of designing. The painter spends seven hours a day wielding heavy brushes, carrying buckets of paint that weigh 25 or 30 pounds and climbing ladders (in most television studios) or walking the lengths of paint-frame bridges. He usually wears an old white shirt, white overalls which pick up considerable paint and charcoal during the day, and shoes that are so unbelievably encrusted with small spatter-points of color that no leather is discernible. Unlike other artists, he rarely sees the product of his work set up on display, and he receives no credit whatsoever for his technical contribution.

Essentially, the scenic artist's level is that of specialized, highly skilled labor although there is no question that in a sense he is also an interpretative artist responsible for much of the designer's success, since he must enlarge or transfer small-scale sketches and quickly prepared details in painter's elevations to sizeable canvases. That he can paint in the style of one designer in the morning and follow the technical idiosyncrasies of another in the afternoon is a constant source of amazement to many designers. The clever scenic artist, with a designer's rough sketch elevation in one hand and a dependable "foliage" brush in the other, can build up textures and fill out details with rapidity and consummate skill, whether the style be that of old-fashioned theater realism or pre-World War I cubism.

The painter of course does not enlarge the designer's sketches by eye alone: usually the designer draws a grid over complicated elevations at a convenient scale, $\frac{1}{2}''$ — $1'0''$ or $1''$ — $1'0''$. By making several quick measure-



Certain textures are readily simulated on scenic surfaces. Left, wooden beams and panelling; right, stonework and plaster. Note how the air brush has been used to soften hard lines. Sets designed by Otis Riggs, painted by Joseph Kaskoun.

ments on the actual scenery to be painted, the executing artist snaps charcoal lines over the stretch in the form of a graph which duplicates at full scale the designer's grid; with this as a guide he sketches in basic details in charcoal. When elaborate ornamentation which does not lend itself to stencilling is indicated, the artist, working closely with the designer, makes a "pounce pattern" on heavy wrapping paper by pencilling in the main lines of the planned ornament and running a tracing wheel over the lines. The pounce is held flat against the surface to be decorated and a small bag of powdered charcoal or dry burnt sienna is rubbed or patted over the tiny openings made by the wheel. When the paper is removed there is a faint dotted line on the scenery which provides a guide for painting and "working up" details. In executing television commercial settings in which it is often necessary to enlarge printing or the sponsor's logotype, the pounce pattern is invaluable.

Even after years of paint-spattered labor, many scenic artists continue studies in night

art classes and not a few exhibit their etchings, oils and sketches. During idle shop time their skill and ability to work fast can be employed to turn out imitation oil paintings, decorative maps and pinchbeck tapestries for set-dressing purposes. Most artists are sufficiently grounded in lettering techniques to handle elementary sign work, and of course to enlarge trade names and logotypes required in commercial settings.

The medieval manner of passing along scenic painting methods from master to apprentice, not necessarily a bad idea *per se*, has already been discussed. As a prerequisite to pail scrubbing and brush washing, however, the student scenic painter should have as thorough a training in the graphic arts as possible, with concentration on perspective, drawing and painting from still life, applied design and out-of-door sketching. While scenic work, involving the handling of opaque watercolors on a large scale, is difficult, it is after all a technique comparable, except in size, to other technical approaches employed in pen-and-ink rendering or in the

stomping of pastels. The incipient scenic artist will find that the skill acquired in painting a still life of an old cookie jar, a brass candlestick and an apple will be very valuable later when he essays large-scale work because, in the main, his daily work involves rendering without models; highlights and shadows must be painted from remembered details. Designers cannot provide complete information in an elevation scaled $\frac{1}{2}''$ –1'0", and the artist, normally more concerned with technical matters than the designer, must fill in areas with detail that on the original are indicated by the flick of a brush.

It is perhaps unfortunate that the student artist today does not have the advantage of

working with the old-fashioned stock company scenic artist who created entirely from memory without instructions on a painter's elevation as prescribed by a designer, and who prided himself on being able to paint anything from a Chinese street scene to the interior of an igloo without research. If some of his scenes were inventions of dubious authenticity, they were at least painted in a theatrically effective manner which few present-day artists can duplicate. Opportunity to paint "off the cuff" is still available to scenic artists in summer stock and this experience, if tempered with taste and grounding in the fundamentals, provides excellent training for exigencies of television artwork.

THE GRAPHIC ARTS

ILLUSTRATION AND TYPOGRAPHY

IT MIGHT normally be assumed that the mere mention of size would be sufficient to differentiate the scenic from other types of television artwork. But mere size of "copy" in television offers no module: on the screen with its 3:4 ratio a 20' by 40' backdrop looks exactly the same in reduction as a 20" by 40" painting of the same subject until, of course, it is seen in relation to a figure. Thus, most backgrounds against which performers or actors appear are classified as scenery. Illustrations, titles, car-

toons and similar material are defined as "graphics." Sometimes it is difficult to separate the two functions, as when dancers actually perform against neutral scenery but, through superimposition effects, seem to be dancing in an enchanted forest "supered" from a 9" by 12" illustration. Basically, although the set designer may plan the artwork, the illustrative card is a "title," not scenery, since the performers do not appear physically in front of it. There is a similar overlap in certain types of camera mats.



Two illustrative titles showing that the graphics designer can provide helpful, expository program information. In this instance, the same program title has received two different treatments in background and typography. Each background suggests program content to the viewer.

But apart from this tangential contact with scenic design the graphics department has its own essential function in no way connected with the fabrication of backgrounds. Since this function is closely associated with the advertising aspects of broadcasting it is described below in some detail.

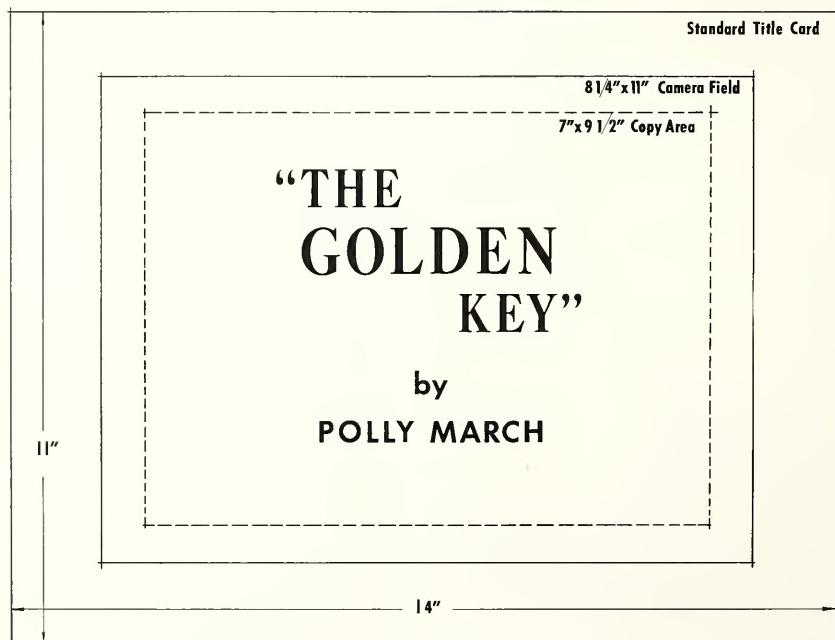
Titles

In the trade, almost any piece of artwork other than a scenic background is described as a "title" because, organizationally, lettering, cartoons, illustrations and photography are executed by a titling or graphics department. In order to analyze the field, a more

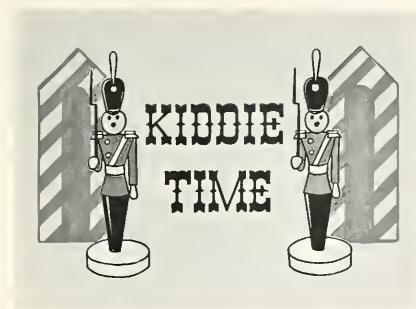
definitive survey seems indicated and it is presented herewith. Again, as in the scenic classification, it should be pointed out that there are no schoolbook, ectypal purities implied; indeed, it is normal rather than exceptional for the producer to combine many kinds of techniques in one title, and of course titles and artwork may be projected into the video system in many different ways. The following material describes copy and style only; processes (slide, film, etc.) are discussed under Titling Devices, p. 151.

LETTERED TITLES

Lettered titles, generally used to announce name of program, cast and staff credits, locale, opening advertising message ("bill-



Layout of the standard title card. While any area with a 3:4 ratio may be used for title copy, most artists find an 11" x 14" overall space sufficiently large for detail. In addition, this size is compatible with large hot-press type sizes.



A typical illustrative title, used on a WWJ-TV program, with free-hand lettering.

boards") are printed or hand-lettered cards usually 11" by 14" or 20" by 30". Type matter or lettering is composed in a field with a ratio of 3:4, which must include allowance for margins. Because receiving screens are relatively small, only good, clear Roman or Gothic type faces are normally acceptable for creating a readable image. On an 11" by 14" piece of copy (set within a field of 6" by 8" or 7" by 9.33") any type under 48 point is likely to blur. It is generally safe to assume that no type should be less than 1/7th of the height of the field.¹ For maximum clarity hand-lettering should be executed even larger since outlines are generally not as precise as in printing.

Several value combinations are effective: white lettering on black, black on off-white, black on gray, white on gray are some of these. Shadows and highlights are useful in separating letters from backgrounds and making them stand out.

Long lines of type extending beyond the field should be avoided because on certain receiving screens left and right letters may be masked off. Occasionally, ornaments on initial letters or portions of cursive type may

¹ In direct printing on balopticon slides, 24, 30 and 36 pt. type may be specified. See *Printing* in this chapter.

extend slightly beyond the established field in a vertical direction. Basically, however, in all typography and lettering the best results are achieved if all matter is kept within the field, plus liberal side allowances for safety.

DECORATIVE TITLES

Decorative titles involve copy that includes ornaments, borders, brackets, cartouches, baroques, and so on, usually hand-executed with or without lettering or printing. Frequently seals, insignia, flags, trademarks, emblems (sometimes logotypes), and symbolic abstractions are drawn or painted on titles, and lettering imprinted or rendered over them. When this is done the background figure must be sufficiently simplified in terms of detail and value so that it will not interfere with the legibility of the imposed wording.

Examples of the conventional decorative title with over-painted message are: *The Makers of / Pansy Soap / Wish You / A Merry Christmas*, Old English or Cloister type over a silhouette of bells; program title, *The Pirate* by S. N. Behrman, over a skull-and-crossbones; *The Concert Hour* within a stylized cartouche, and so on.



A cartouche title suitable for motion picture, slide, or live usage. Courtesy of National Screen Service.



The graphic artist utilizes the photostatic method of copying, reducing and enlarging artwork. In this background display for a Philco commercial the original drawing was enlarged to approximately six feet high and also reduced and reversed for a balaopticon slide. In black-and-white line work, the photostatic negative provides a useful reverse print. Artwork "blown up" for display purposes is usually mounted on light wall board.

IDENTIFICATION TITLES

Identification titles carry the call letters of the station (possibly with illustration) and also enlarged trademarks, logotypes and other commercial figures or slogans, such as "L.S.M.F.T." or "Call for Philip Morris." These commercial titles with their identifying insignia are used as transitional bridges between the program and its commercial portions and also at the very end of the program as a "hold" if the show finishes a second or two ahead of scheduled timing.

Because most trademarks and logotypes were originally designed for use in connection with printing and lithography, they do not always possess sufficient linear boldness to be effective on television, although for-

tunately many old-line firms have simplified identifying brand names and lettering during the past 25 years to achieve a compatibility with modern typography. When trademarks are complex and involve old-fashioned engraving lines or obscure half-tone detail, copy must first be enlarged photostatically to convenient size and carefully retouched before being reduced to title size. Logotypes offer few problems since lettering is designed actually to be read under various conditions; as a result, most logotypes or other product-identifying trade names can readily be enlarged to fill the screen and retain full legibility. Examples: Coca-Cola, RCA, Admiral, Ford, Colgate-Palmolive-Peet (initials). Under no conditions should a trademark or logotype be altered in any way



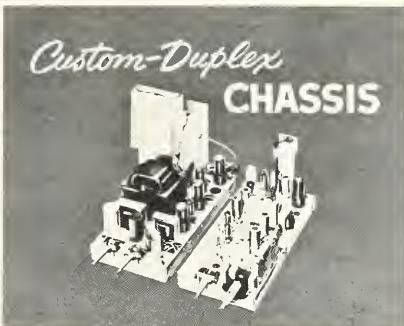
A Philco commercial "signature" title, rendered in gray-scale values, suitable for reproduction on film, slide, balopticon or live.

without approval from the sponsor's advertising department.

ILLUSTRATIVE MATERIAL

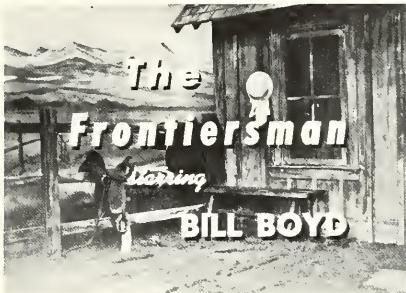
Illustrative material, normally executed on suitable cardboard or "illustration" board in stock sizes 11" by 14", 15" by 20", 20" by 30", etc., within a 3:4 field, ranges from simple line drawings to complex landscapes, perspectives, and architectural renderings. Brush and India ink, transparent watercolors and opaque poster or artists' casein colors are the principal media.

It is somewhat futile to attempt to analyze the different kinds of illustrative "titles" by subject matter. A single day's variegated programming requires a multifarious assortment of pictorial material that, counting both show and commercial needs, often reaches encyclopedic proportions. Examples are: wash drawings of crossed tennis racquets for title announcing interview with a tennis champion; realistic renderings of a gravestone, an 18th Century country inn and a 1995 model of a spaceship for dramatic shows; stylized vignettes of six different kinds of pie and four varieties of cake for a food products commercial. A graphics de-



Typical copy for a commercial card or slide involving hand-lettering in off-white and a photographic cut-out against a middle-gray value. From a Philco commercial.

partment or shop which provides illustrative material for network programming may turn out, during the course of a normal week, 75 to 100 pieces of pictorial matter, including locale indicators (illustrative cards used to point up exposition) of miniature "scenes" from Madagascar to Moscow, and numberless realistic, symbolic and commercial objects or products ranging from abacuses to



Titles for balopticon slides are sometimes made by imposing printing on a "cell" over a still photograph of an actual scene from a film or live program.



In this title for an NBC opera, John A. Rose has combined air-brushed artwork with a printed "cell."

zithers, and quite literally from soup to nuts. Like requests for outlandish props, title orders for illustrations may include demands for anything in creation and beyond.

In order to achieve an exact likeness, most illustrations of advertised products are worked up from photographs, but occasionally it is necessary to render packages or products directly. Whenever possible, these drawings should have agency or sponsor approval before being shown on the air.



Copy for a decorative TV title suitable for slide, live studio or film.

STILL CARTOONS

Still cartoons are line or line-and-wash drawings, usually rendered at about the same size as illustrative cards. They are used as title backgrounds, in margins of lettered titles, as general illustrations, for weather or holiday announcements—in fact, wherever bright, crisp accents are indicated. Most line work is done on light gray board in black or very dark gray with small areas of white added for highlights and contrasts.



A good example of a nonanimated cartoon, executed in solid blacks and off-whites on a light gray background. Artwork in this tonal range is effective for both filming and live studio usage. The drawing is from a Philco commercial.

MAPS AND CHARTS

Maps and charts are frequently required for news shows, educational programs and special events. When a television station is operated by a newspaper, the graphics department usually has access to press service maps of battlefronts, devastated areas and the like, and can readily redraw or adapt these to copy for various types of titling processes. But without news services the staff artists or commercial art shop cannot be expected to provide research material which is essentially

a program function. Most published maps are copyrighted and portions cannot blithely be cut out and transferred to film, slide or live title without clearance. This clearance should be provided by the program producer. (See p. 60.)

Once approval is obtained to adapt material, there is no great problem in simplifying maps for television usage. Only very restricted areas should be included in titling effects, but wall maps may be made in any convenient size, since the camera can pan from point to point as the newscaster indicates areas of action.

Charts, weather maps and pictographs are sometimes used in titling and are executed much in the manner of newspaper line-plates, except that great simplification is indicated. Black or dark gray on off-white or light gray background is suggested. For election returns, charity drives or forums on economic matters, the title artist can often develop ingenious ways of expressing facts graphically and thus contribute to the success of the program.

In the main, still charts and diagrammatic material are considered too dull for use in commercials.

MECHANICAL ANIMATIONS, "GIMMICKS" AND PROPS

There are certain mechanical and still effects adaptable to live titling that are particularly suitable to television production. These effects are easy to fabricate and costs are nominal. Actually, many are not "titles" at all, but since the graphics department provides the means and skill required for execution, they can properly be listed here:

Pull-aways are live lettered titles, maps or graphs executed in a normal manner in standard sizes on single thickness Bristol board or thin drawing paper. The renderings are mounted on a piece of heavy cardboard or plywood in which cuts or mortises have previously been made in the form of letter-



War news, charity drives and election returns require unusual equipment for immediate televising of results. This live titling gimmick was designed by John A. Rose of NBC for a Young & Rubicam election-return program.

ing, arrows, directional lines, etc. This backing acts as a mask and when a 250-watt spotlight is directed on the back surface and small pieces of cardboard fitted in grooves are pulled away, the title message, design, graph curves or other material appears on the front surface of the title in the form of light. Areas on the drawing through which light is projected should be rendered lightly in transparent watercolors.

This pull-away device is excellent for showing progression or alteration, such as battle-front lines, inundated sections and courses of rivers on maps. It is also effective for "popping in" lettering and other novel animations, such as slowly revealing a logo-type in script. When the shutter is pulled away slowly over script an impression is created of "magic writing."

Under certain conditions lettering is done on a piece of plate glass placed behind the drawing so that type does not have a stencilled appearance as it does when it is cut out; normally, when glass is used the areas around the letters are opaqued with flat



A drawing of a studio "transitor" used for special effect and montage shots. The crewman controls the speed of the disc.

black oil paint or japan. Simple and inexpensive commercial animations such as the following have many applications: From the face a title reads—*For Summer Cheer / Drink Hoffman's Beer* imprinted over a cartoon of girl in swim suit holding up bottle. On cue three shutters are pulled away in succession so that words (lettering in light) pop in at odd angles over girl—*SO COOL! SO MELLOW!! SO TANGY!!!*

Other live mechanical animations involve the making of clockfaces with hands that turn (used widely on dramatic shows as a transitional device), temperature indicators (for range and refrigerator commercials) and other effects in which the backgrounds are generally in two dimensions with movement being supplied by a cardboard arrow or pointer which is attached to a staple or wire and operated from the back. Since these devices are purposely made for close-ups, the background artwork is usually a retouched, enlarged photograph. Speedometers, elevator indicators, gauges, and windshield wipers for

commercials and dramatic programs are handled by this method.

Example: A producer plans to show a character enter an elevator in an apartment building and get out on the 6th floor.

a. Shot—Man enters elevator, doors close.

b. Cut to indicator on title stand . . . 1, 2, 3, . . . etc. On 6.

c. Cut to Shot a. Doors open, man leaves. Obviously, the elevator hasn't moved an inch, but the effect of motion and change of locale has been suggested. Cutting to the title stand allows a change of lighting in the elevator door scene or permits a propertyman to add a decorative urn or to remove a potted palm so that another floor is indicated. As banal and puerile as this example may appear, many economies and efficiencies do result from similar devices.

Although graphic artists do not need to concern themselves with the mechanics of whirling montage, special effect or transitional discs, which are usually operated by motor-driven equipment, they are responsible for artwork that is attached to the plates. This artwork may consist of spiral forms, "paste-ups," abstract patterns or tortuous designs intended to be picked up by the camera when the producer needs a "bridge" to join two scenes indicating that they are not continuous in time or in meaning. For example, to show dream sequences it is frequently advisable to superimpose clouds, smoke or some abstract design over a shot of the sleeper so that the viewer will understand the special nature of the sequential action. One of the most popular effects is created by rotating a spiral (drawn on a cardboard disc with a diameter of approximately 18"); as the disc revolves faster and faster, producing a blurred, "dizzy" effect, the initial picture is faded out and sometimes a new picture faded in, at which point the disc is faded out, and a new sequence starts. Transitional effects like the spiral offer no results that can-

not be accomplished more smoothly through the use of motion pictures, but of course the live studio devices are normally less expensive. Other "bridges" consist of calendar pages turning or dropping, "supers" of flashing geometric figures (such as those used as illustrations in books on elementary psychology) to indicate insanity, mental torture, etc., and shots of suggestive or definitive properties.

Paste-ups or montages are illustrations, newspaper headlines, products, pictures of products or photographs mounted in such a way on a moving disc that the information in a predetermined series of fields revolves slowly before the live studio camera. For example, a sponsor selling canned soups might make an effective opening billboard by using a shot of a turning disc on which labels—PEA, CHICKEN GUMBO, CREAM OF MUSHROOM, EAST CHOP CLAN CHOWDER, TOMATO, etc.—were affixed at odd angles in a seemingly accidental manner. Such material, executed in contrasting values, can be superimposed if the disc turns slowly. The word *montage* is not used here in its motion-picture sense; in films, *montage* refers to a series of apparently separate shots so connected or related in sense that they rapidly indicate meaning by suggestion or implication.

SMALL PROPS

Normally, the painting and decorating of props, especially large elements, is jurisdictionally the task of the propertyman although in practice scenic artists usually assist when decoration is required. However, there are certain small props used in television, especially those which must be lettered or numbered, that are efficiently executed by the graphics department: books with fictitious titles, mock-up newspapers, directional or street signs, all kinds of fictitious printed matter, etc. In dramatic programs, artists are asked to provide fake prescriptions, manuscripts of all periods, bottles of medicines

(and of course "poisons"), oil portraits of cast members, automobile number plates and imaginary Broadway show or election posters. (See *Processes*, p. 155.)

Titling Devices

Before discussing the various techniques and processes involved in preparing copy for an actual title, illustration or display unit, it is necessary to explore the methods by which this information is picked up by camera tubes and introduced into the electronic system for transmission. This introduction is effected in two different ways: (a) material is reduced in size for opaque slide, or developed on film, film strip or transparent slide and projected into the system from various devices physically placed in the master control room, or (b) artwork, titles or illustrations are placed on suitable easels or stands in the studio and picked up by one of the studio cameras on cue during the course of staging the program. In both instances the results are the same and, although the superiority of one method over the other is certainly debatable as regards operational efficiency, this matter is not the concern of the artist. It will suffice to indicate here that ideally all titling material should originate from a so-called special effects studio or master control room at a point removed from the program studio. This will keep bulky easels, stands and titling devices off the busy sound stage, which is normally cluttered with scenery, props, cameras, booms, lights, actors, stagehands, musicians, floor managers, co-ordinators, integrators and vice-presidents. Producers can preview artwork and combine it with program material on cue very easily. But frequently the master control room becomes overcrowded with film commercials and various types of slides to a degree that it is difficult, perhaps impossible, to provide service. Thus, in network broadcasting, some live

studio title display during periods of peak activity seems indicated for some time to come until the television cities of the future are steel and concrete realities. For control efficiency most producers now prefer the use of live titles.

Projecting Images from Master Control

There are two principal basic means of projecting images developed from artwork into the TV system: (1) from master control (or special effects studio) and, (2) from the live studio.

Straight 16mm or 35mm Film

Still or animated artwork photographed on motion-picture film and processed by a laboratory. A special effects camera is used, when necessary, for lap-dissolves, wipes, zooms, fade-outs, etc. in making the original film.

Film Strips

Artwork photographed on individual frames of motion-picture film. On cue, new frame is brought down in 1/200th of a second in projectors such as the "Animatic," manufactured by the Animatic Sales Agency, New York.

Slides

Glass "transparencies," 2" by 2" with aperture 23mm by 33mm or approximately 15/16" by 1 5/16". Copy area, approximately 3/4" by 1 1/8".

Balopticon (or TeLOPTICON¹) Slides

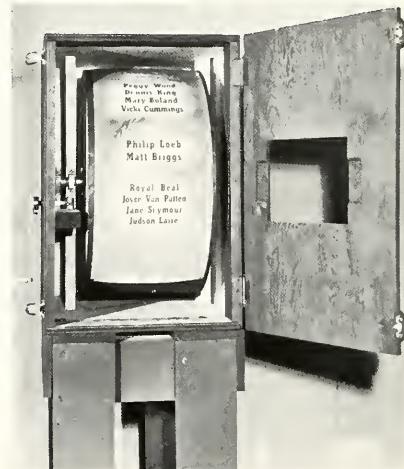
Opaque paper slides, 4" by 5" with a field approximately 3" by 4". Copy area 2 1/2" by

3 1/2". Normally developed from photographically reduced artwork. In principle, device is comparable to old-fashioned post-card projector. Clock or watch faces with moving hands and other similar articles can be integrated with flat artwork under some conditions.

Projecting Images from the Live Studio

FLIPS

Cards, 11" by 14", with a field approximately 8 1/4" by 11" and a copy area 7" by 9 1/2", that fall one after another on cue from a ring-binder attached to an easel or stand. The studio camera focuses directly on the field, and when directed by the floor manager, a stagehand or production assistant releases top card. The results are satisfactory but crude. However, the superimposition of



Live TV crawl titles are printed or hand-lettered and may include illustrative or decorative backgrounds.

¹ The Telopticon is a trade name for a balopticon projector, manufactured by the Gray Research and Development Company, Hartford, Conn.

flip cards (especially those with white letters on a dark gray background) over other program material is most effective, since the viewer sees only lines of type falling in succession toward the screen. The secondary image obscures the plain gray of the card.

LIVE DISPLAY

Artwork, commercial copy, enlarged photographs, maps and charts larger than the 11" by 14" cards are displayed on stands made up in stock sizes established by the station; convenient sizes are 20" by 30" and 30" by 40". One advantage of live display is that cameras can dolly in on pictorial work or maps; thus if certain areas are executed in the proper aspect ratio with some surrounding white space, these areas can be isolated if required by the script. Live displays may also be combined with certain mechanical stage effects, such as snow, rain, fog, smoke or mechanical movement. Artwork with a shiny, reflective surface—glossy ferrotypes photographs, celluloid, glass—should not be displayed live.

MECHANICAL TITLING DEVICES

Movement (other than animation) added to artwork or lettering attracts and sustains interest in both program and commercial subject matter. A cinematic technique is certainly indicated to maintain the attention of the viewer because it is a fact that as the radio listener closes his ears to audible commercials so the video fan shuts his eyes or, what amounts to the same thing, directs his attention elsewhere when the appeal of visible material becomes static and dull. While movement, action and novelty in credits, commercials and announcements are achieved best through the use of motion pictures, there are practical and economical reasons why filming such material is not always feasible:

a. Stations charge a fee for activating film facilities.

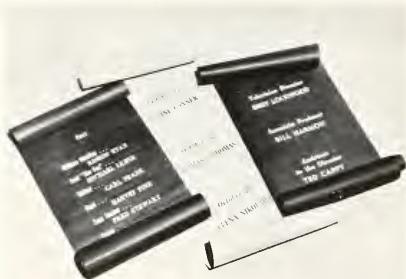


The electric crawl is operated by a studio crewman who controls the speed of the drum by rheostat adjustment.

b. Credits, including names of cast, suppliers of clothes, et al., change from program to program. An introductory and closing film would cost \$125 to \$200 to process, exclusive of artwork and could have no further use.

c. In commercials, the sponsor may wish to change the format slightly from day to day or week to week.

Several mechanical live titling devices, such as the pullaway and the transitional "bridge," have already been mentioned. The most important and useful unit of equipment, the live "crawl," requires extended description. Crawl titles in motion pictures are those in which lines of type or other material seem to rise from the bottom of the screen and slowly continue upward until they disappear at the top. Actually, film crawls are hand-lettered or printed cards about 14" wide and 36" to 42" long which are placed on a flat bed and photographed from above as they are slowly pulled through the camera field. General Electric manufactures a television optical device to effect the projection of crawl material from a flat bed, but this de-



Cast and producer credits are printed on TV crawl titles by the hot-press operator. The white type on dark gray background is excellent for superimposition.



An atmospheric live crawl ending in an illustrative title. In this instance, the moving stars might be superimposed over another camera shot.

vice must operate from a special effects or master control room.

There are three possibilities in rigging a live crawl to be used in conjunction with a studio camera: a cardboard may be raised in a frame, paper may be rolled from one roller to another, or paper may be tacked or stapled to a revolving drum. After considerable experimentation with all three methods, with the first two yielding jerky, uncertain movement, torn or twisted paper, noise and inefficiencies in handling, those technicians who escaped nervous breakdowns have generally settled on the drum method as being economical and nearly foolproof. In practice, a piece of heavy paper, about the same size as the movie crawl, is lettered or printed according to specifications and thumbtacked on a wooden drum which, carefully geared for smooth, steady revolutions, is turned by a hand crank or a variable speed motor. The camera picks up information through an aperture in the housing, framed in the 3:4 ratio. Live crawl material can move from bottom to top or, by placing the drum horizontally and altering the aperture, from left to right. Illustrations of a continuous nature may be used effectively, as well as certain types of montages or paste-ups, abstractions and display material like small, shallow packages or products, labels, or even raised letters or logotypes.

There is of course no end to the development of ingenious, live studio titling and display devices. Miniature prosceniums with title-card "drops" have been used extensively, and endless belts, breakaway titles and various kinds of pop-ups are successful as novelties until the viewer tires of them or until someone develops a new device or "gimmick." Thus, insofar as is possible, drums, "lazy susans," turntables and mechanical transitional devices are standardized; the artwork they display is subject to change. Custom-made devices for special purposes are developed as required.



At BBC, this caption artist does free-hand work within the edges of a specially made mask, the height and width of which has a ratio of 3:4. Note that ample borders at the sides are allowed.

Processes and Media

Artwork for television is practically always executed in the established ratio of 3:4 except when it is known that (a) the camera is to pan or tilt up and down on certain copy, and (b) material is to be used as a prop in a succession of shots: such as a "Wanted for Murder" poster in a sheriff's office setting, or a period parchment scroll. Media include opaque (poster) watercolors, casein (in tubes), transparent watercolors, and any combination of these with other types of pigments, colored inks, dyes, etc. For certain commercial displays that are expected to last through a series of programs, decorators' or artists' colors ground in oil provide some permanence. Cartoons are executed with brush and India ink rather than pen, and also with

brush and retouch colors (white or black) against a gray board.

Generally, the effect the graphic artist normally wishes to achieve is that of partial or total realism, especially on the achromatic system; in short, he employs a smooth, slick technique. Pencil renderings, pen-and-ink sketches, etchings, steel engravings and lithographs do not reproduce well in television although plain line drawings (without too much scratchy "technique") are acceptable. Rubbed pastels would be excellent for heads, and for rounded or streamlined products but this medium has not been employed as extensively as it probably will be in color television. As may be assumed, the air brush is an especially effective adjunct for rendering or completing all kinds of artwork.

Normally, Ben-Day tones or charcoal or crayon drawings on pebble-surfaced board are too spotty for general acceptance because detail is frequently enlarged in the broadcast picture; when newspaper or magazine half-tones (55 to 144 line screen) must be reproduced on the system, a considerable amount of air-brushing is usually indicated. In artwork props, such as the previously mentioned "Wanted for Murder" poster, the picture of the culprit (usually an actor, but possibly a well-known, actual criminal such as Jesse James or Capone) should be a photograph or photostat, especially if a close-up is planned. Half-tones, rotogravure or offset reproductions should never be used for balopticon or transparent slides.

But apart from these few restrictions the graphic artist can work in nearly any "smooth technique" medium he prefers. Graded and tinted illustration and mat boards are available for special effects and lend themselves to usage on jobs that must be rendered rapidly, since the tone is helpful in creating a background, and the light tints obviate the need for time-consuming washes to cover a white surface. As in other television artwork, titles, displays and commercial announce-

ment cards are rarely executed on pure white.¹

There is a place on the graphics staff for the "sign writer," especially if he is able to lend a hand in allied but more precise work. The ability to knock off single-stroke letters with assurance and speed is valuable, especially as daily title orders include requests for real or fictitious election posters, price cards for live commercials, lettering on doors in settings, street signs, and a dozen other insistent demands for quick service jobs that should not be assigned to an artist skilled in more refined, detailed work. Similarly, the execution of cue cards should be the responsibility of the sign writer because these adjuncts, although prepared in a most perfunctory manner, nonetheless require considerable time to letter, especially if an artist is unused to fast, slap-dash methods. Cue cards are not seen on camera. They are normally held up by the floor manager during rehearsal and performance to provide actors with directional information, or more frequently, to refresh their memories as to lyrics, extra long speeches, or other material. The cards are used on revues and other quickly assembled shows (rarely on dramatic offerings) such as news, special events and children's programs. Material is boldly applied in 2" bold-face letters with brush or black crayon on 30" by 40" cards. Some programs order as many as 30 cards per performance.

If the production artist is to achieve a slick sophistication in his effects he cannot be limited only to pencil, brush or pressure spray especially if, during peak periods of activity literally hundreds of assorted pieces of copy must be produced on a weekly basis. Two

¹ Straight photographs, photos for balaopticon slides and photostats with large areas of white are toned down by the application of a thin wash in light blue-green or yellow. Dye paints manufactured for tinting photographs are excellent for this purpose.

graphic arts crafts, photography and printing, are essential adjuncts; each can contribute neat, finished artwork for use as direct copy or for combination with hand-executed lettering or illustration.

Photography

Many still shots inserted into a program to establish locale are developed into transparent slides or balaopticon cards from regular 7" by 9" or 8" by 10" glossy photographs which, in television production, are usually purchased (actually the print is rented on a one-time usage basis) from a news or press bureau, or on occasion from individual photographers. Photos are frequently used as title backgrounds with lettering executed directly on the face of the photo or on a piece of cellulose acetate (called a "cell" in the trade) which is placed directly over the photo for processing.

As in all other artwork, except props and rear projection slides, the useful information intended for broadcast must be planned within an area in the 3:4 ratio, and photos for titles are so cropped by the artist. The following lists standard usage:

Photographic Copy

1. Plain photo for establishing still shot. Slide, balaopticon, for various optical projectors. Copy 5" by 7", 7" by 9", or 8" by 10". Glossy ferotype. Note: An 8" by 10" print (or an enlargement) may be used as a live title, but a mat print is indicated to avoid reflections.

2. Plain photo for title background with hand-lettering. Glossy print can be used but is difficult to work on, even with "no-crawl" chemical in paint or ink. Mat print 8" by 10" or 11" by 14" preferred.



NBC-TV slides use photographs of stars and cartoons in effective gray-scale combinations.

3. Plain photo for imposing of lettering on cell. 8" by 10" glossy. Note: Cells cannot be used live because they have a highly reflective surface.

4. Photo of three-dimensional ceramic or wood letters, set against a contrasting background or lighted directionally. 8" by 10" glossy prints for slides.

5. Montage photos for program introductions; e.g., a paste-up of typical night-club signs and doorways made from a series of photos cut and assembled at odd angles. Frequently rephotographed to effect reduction in size and used for title background with superimposed type matter.

6. Copying. In television production additional copies of many kinds of artwork are often needed for standbys, mailing to other stations from which portions of the program may originate, or to protect original artwork from damage in the studio. Material executed only in line can be satisfactorily photostated. Work in a wide range of tones requires photographic treatment if full gray-scale is to be retained. However, in actual practice on certain quickly assembled news and special events shows, election returns, and low-budgeted daytime programs, photostats of tonal material are acceptable. Reduced photo copies are usually made for balopticon work.

7. Photos of props. In television programming it is frequently necessary, particularly in dramatic shows, to insert close-up shots of certain articles which are important to the development of the plot: examples are a miniature in a locket or watch, a blood-stained dagger, or a book, opened to a certain page, with copy marked. Many of these shots, on the screen for only a few seconds, cannot operationally be picked up live along with action. The locket, dagger, the book under some conditions can be duplicated, placed in the hands of an extra, and so picked up by a studio camera. This arrangement would work very well for the dagger, but the size of the

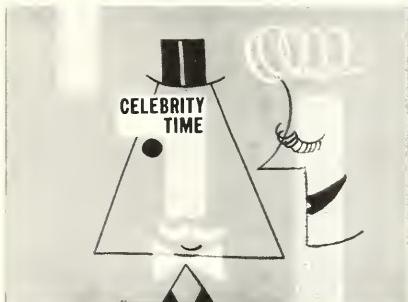
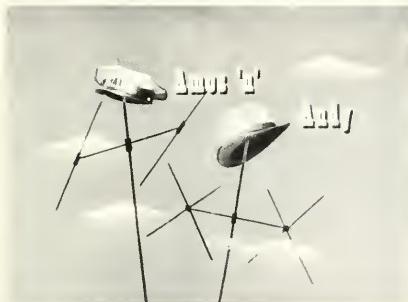
locket and book, possible movement in handling and the difficulty of lighting make legibility uncertain. Frequently, the graphics section photographer makes still shots prior to production of such details and enlarges them to 11" by 14" prints. Unless movement is definitely indicated, these photos can be integrated with live action to produce illusive results. Care must be taken to provide a model whose hands closely resemble those of the actor who actually holds the real prop. If printed matter is involved, further enlargement may be necessary.

8. Product photos must occasionally be made for advertising agencies, and this special service plus the work of finding or designing suitable background and dressing props is the responsibility of the photographer. In addition to furnishing shots, for slide or live usage he may also need to copy trademarked seals, logotypes, insignia, etc. for enlargement.

9. Repackaging. In the days of the iconoscope tube, nearly every can, bottle and package displayed in a live commercial had to be retouched to be recognizable on the system.¹ Today, the image orthicon tube normally makes repackaging unnecessary, but occasionally a wrapper in pastel tints must be reduced to values of gray. The process is simple: a wrapper or package is carefully flattened, mounted on a piece of illustration board, retouched or darkened as required and photographed at the same size. The resultant photo is then cut apart and pasted over another can or package. Frequently, if not too many tones are involved, a photostat will suffice.

There are obviously many other applica-

¹ The art staffs used to hate General Foods programs because cereals, dog foods, Jello, Postum—all were packed in cartons or cans lettered in light red which did not show on the system. In one afternoon, a secretary, a make-up girl and I re-lettered all red copy in India ink on 210 assorted G.F. packages for a live commercial.



Georg Olden, graphics art director for CBS-TV, and his staff have created interesting balopticon material by combining hand-lettering and hot-press printing with photography and various types of montages.



Six units of balopticon slide copy executed by the graphics art department of ABC-TV under the direction of Arthur Rankin, Jr.

tions of photography to television production, but the foregoing should indicate the relative importance of this process.

Printing

Because of its commercial nature, television broadcasting involves the transmission of a substantial amount of printed copy despite the claim of the admen—and the Chinese—that a picture is worth 10,000 words. In their silent days the movies too depended on subtitles for description and dialogue and, except for occasional opening titles which were hand-lettered, employed printing for such literary touches as:

Lester, imprisoned by the
Arabs, believes Pauline has
married Lord Binley.

These subtitles were printed on cards, subsequently photographed and, after processing, edited into the finished film. Television production employs a similar method except that the title information is generally reduced to slides or picked up in the live studio directly by a camera.

Because only one copy is normally necessary for such practice the employment of letterpress printing, gauged to produce impressions by the hundreds or thousands is somewhat expensive and superfluous. Another method, involving a "hot-press," is more suitable for imprinting one or two good, clear "proof" copies cheaply; because of its simplicity a trained printer is not essential unless production demands warrant a full-time operator. An apprentice artist or clerk can easily learn to stick type in the large sizes indicated for television titling.

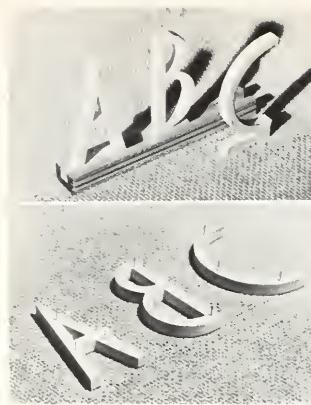
Regular standard, all-metal type (24 point to 72 point and over) is used in the hot-press; type is set in a special stick, pre-heated and locked in the press where its temperature is

slightly increased. When sufficiently heated, the lines of type are brought down to rest on a plastic ribbon, and this plastic is melted, so to speak, and neatly bonded to cardboard, fabric, photograph or other title background. No ink or rollers are required. By changing the ribbon, other copies may be pulled on cells in contrasting values, color or in metallics to produce dropped shadow or three-dimensional effects.

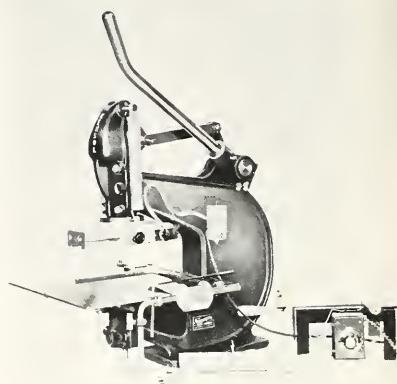
Another printing device, manufactured for window and price-card work and widely used in department stores, may be adapted to television purposes. This apparatus involves the use of regular standard all-metal type, which is set and locked in a form with the face of the type uppermost. The type is inked from a hand roller and an impression pulled by exerting pressure from the top on board or paper. The cost of this device is less than that of a hot-press but impressions, while usable, normally require considerable touching-up because inks recommended appear to be weak and somewhat watery. Title artists in general do not feel that this proof press is adequate for fast production work.

In general, most conventional titles can be efficiently and effectively produced by the hot-press process. Matter imprinted on 20" by 30" or 11" by 14" cards is readily picked up live by the studio camera and can be reduced photographically for transparent or opaque slide. In fact, the 4" by 5" balopticon size can be printed directly with 36 point to 48 point type over artwork, textured papers or photographs. When plain typography is too prosaic for special effects, copy is printed with the initial letters of words omitted so that decorative or cursive hand-lettered artwork may be added.

Television production demands a great deal of printed material other than straight titles and the acquisition of a hot-press is indicated for the preparation of faked newspaper mastheads, headlines, advertisements,



Three-dimensional plaster letters in various sizes and faces are useful in television graphics.



Most printing in television graphics is done on the hot-press, described in the text. The model above can print several lines simultaneously.



A poster press similar to the type used by department stores is a graphic arts adjunct at station WWJ-TV. As many as twelve "headlines" for a news show can be set up in an hour.

Effective titles and commercials can be efficiently set up with several fonts of plaster letters. These letters have self-contained pins and adhere readily to plain or fabric-covered Celotex.



If you want to avoid criticism,
you must say nothing, do nothing,
think nothing and be nothing...

Harry Wayne, WWJ-TV art director, at work on a characteristic title background. This Detroit station works with illustrative material sufficiently large to back a head and shoulder shot.



fictitious books, doctors' prescription blanks, small placards, name plates, labels, forms and letterheads. Dramatized commercials too require printed price tags, counter signs and announcement cards.

In practice, if the graphics assistant in charge of printing keeps his stock of type in good condition, it will last for an extended period because the actual impressions are few. Each budget period should see new fonts added until a sufficient variety of type is stocked to serve multifarious demands, although at first a half-dozen fonts of Vogue, condensed Gothic, Caslon, and Brush in various sizes will suffice for conventional title orders. Both art director and title chief should understand the psychological use of type faces as applied to advertising and general display work so that cards for a perfume commercial are not set in Cooper Black, or titles for a mystery thriller in Goudy Cursive. Type is expressive, books on typography claim, and art directors should make full use of its ability to suggest, to imply and to indicate.

Titling and type wisely used add to the effectiveness of the simplest program because both are important factors in exposition, that portion of any program, dramatic, documentary or commercial, which delineates what is to follow. A very elementary example is a plain title announcement giving only the name of a composition, *Show Boat Melodies*, which is to be superimposed over a chorus and orchestra group in costume. A title lettered or printed in condensed Cheltenham will provide the information, but one set in a type face like Barnum establishes a mood and in a sense conjures up for even those viewers with limited imagination some associations or impressions of a traditional, gilded era. If this attack is successful in simple applications, it is even more important in dramatic shows in which atmosphere and locale must be set early in the program even before

actors speak. The producer's task is made easier if artwork, typography (and of course music) combine to prepare the viewer for material that is to follow.

Fakery and Fakes

In Gilbert and Sullivan, "Skimmed milk oft masquerades as cream" but, in television and motion-picture production, items that must be faked for dramatic purposes do not necessarily have even a common source. It is obvious from the foregoing material that the title artist, scenic artist and propertyman, not to mention the stage carpenter and special effects man, are obliged to be arch fakers



Sets depicting street scenes, banks, hotels, theaters, newspaper offices, etc., require property signs and placards of all types. In this scene from the *Lucky Strike Hit Parade*, the titling department has provided a replica of a traffic sign.

in order to provide necessary program material. Most artists dislike fakery and style plagiarism—although occasionally some eccentric genius spoils the record by producing Old Masters by the square yard to sell to innocent American tourists and not infrequently to art galleries—but if artists seek



A "genuine" oil painting 36" by 45" of Valerie Bettis, required by the stage business in a Philco production. The small photograph was blown up photostatically, mounted on wall board and the oil paint technique applied by a title artist working in black-and-white and intermediate values.

careers in television, especially in graphics work, they must alter their thinking. The titling group is called on for the following:

OIL PAINTINGS

Oil paintings of various subjects and especially portraits of actors as they appear in a program, executed in the manner of any specified artist and period. These portraits are normally worked up from enlarged photographs or photostats by the member of the graphics staff who is expert in period and modern techniques. The accompanying photograph and completed "oil" of Valerie Bettis is a good example. Miss Bettis starred in a Philco Television Theater production,

the plot of which required several shots of the portrait prior to her first entrance. The original photograph was enlarged photostatically, the print mounted on thin wall board and rendered in a conventional oil technique in values of gray casein paints. For another program with a scene in a modern art gallery, graphic artists faked a dozen avant garde canvases in different styles, but for a production of *The Life of Van Gogh* actual reproductions and enlarged photostats of reproductions were used. The graphic artist also has to provide miniatures, family group tintypes, newspaper cuts, police identification photos and fingerprints, portraits of actual performers as octogenarians, and so on. Most of this work is basically photographic with air brush retouching added.

CHARTS AND MAPS

Charts (medical, business statistics, pseudo-scientific), maps, etc.—of nonexistent places—scrolls, flags, insignia, coats of arms—of musical comedy countries—and forgeries of historical or fictional persons' signatures.

PRINTED MATERIAL

Newspapers, magazines, books and other printed material as required by the script. For example, in a domestic comedy the protagonist, obviously an introverted bachelor, writes a novel, *Women Men Marry*, which must be shown in a bookstore (several copies), in his apartment (2 copies), and in the hands of several irate women readers in a fast series of shots (6 copies). These dozen or more copies are made up by a graphic artist who invents, designs and photographs or photostats a plausible dust-jacket which he fastens securely to prop books of the specified shape and size. Newspaper mastheads and headlines are printed on the hot-press and pasted over real newspapers. It is usually



Books are frequently used as a titling device in providing introduction and cast credits. Above, tip-ons are printed on the hot-press and affixed to a blank cover. Cast credits are also printed and pasted to inside sheets. Pages are usually turned by hand on camera.



Any number of prop books may be made up by the graphics department by developing photostated dust jackets. Above, the original photo of a drawing, two imprinted cells and the finished book jacket wrapped around prop books. Note that the black letters are used in back of the white letters to provide contrast or a "dropped shadow."



Headlines for mock-up newspapers are printed on the hot-press. Note how other headlines in the above exemplars have been subdued.



Three units of title copy for a film introduction. Courtesy of National Screen Service.

customary to "greek out" other headlines by obscuring type matter with oblique or curved pencil lines (or dashes of opaque white) so that they cannot easily be read by the viewer. Magazines and brochures are handled in a similar manner. If additional copies are needed, essential material is photostated and pasted-up over suitable dummies or actual publications of the right character.

There are many other fakes required of the graphics department. It is impractical to list them all here since the range is wide, but the foregoing examples have been included to indicate that the work of the title artist extends beyond drawing, lettering and rendering.

Animated Films

The field of film animation, which includes cartoons, puppets, and products, is too vast for this manual. Works listed in the Bibliography include further information of value to the artist on the mechanics of this complex method which has an unlimited scope in providing interest and novelty for commercials. Because hundreds of drawings, tracings and cells are required for animations,



Typical hand-lettered and air-brushed title copy used in film work. Courtesy of National Screen Service.

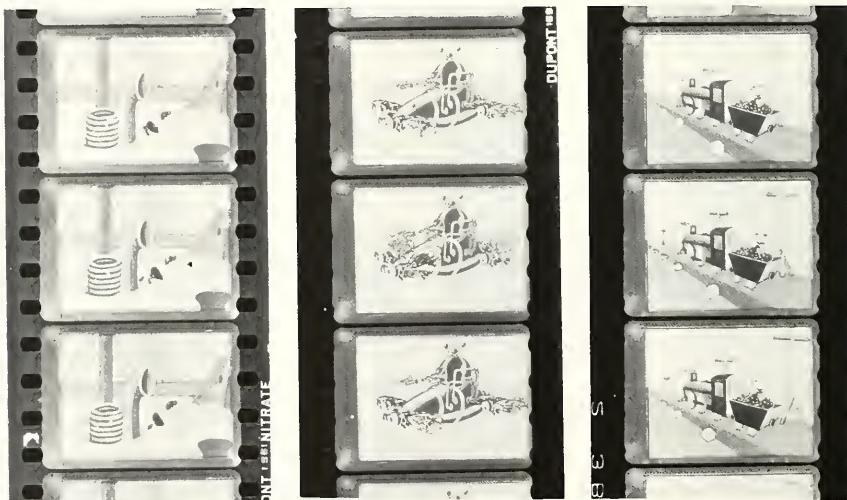
this type of work is normally handled by specialists rather than by station-employed artists and cartoonists whose full time must be devoted to general programming. Occasionally, however, when films must be shot locally under emergency conditions, the graphic artist provides partial animations by using cells over a still or moving background or devises pop-ins or physical animations (such as moving a head on a cartoon figure from the back of the drawing while the shot is being taken) that are effective and attention-getting. The results, satisfactory enough to give life and punch to a commercial, are of course not Disney productions.

The Graphics Department

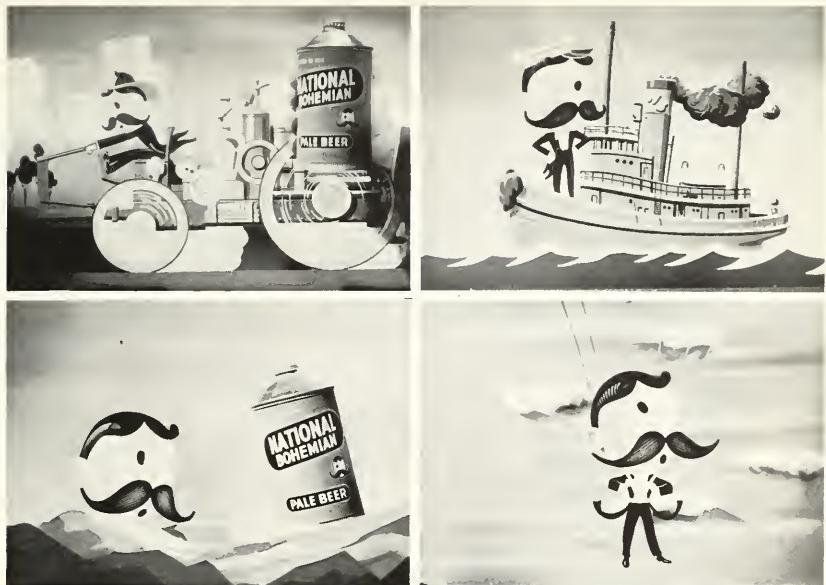
A description of the type of work performed by "title" artists in television produc-



Hundreds of drawings on cells are required for the simple animation of a short commercial on film. The montage above shows six positions of the telephone in an animation designed by Hal Berry.



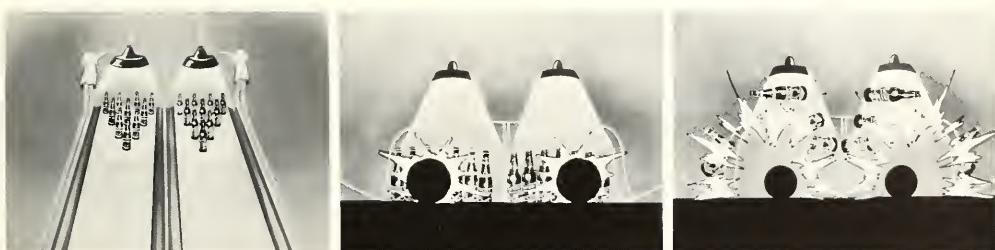
Prints from various animated cartoons produced by Paul N. Peroff, Television Screen Productions, Inc., for Jim & Judy in Tele-Land. On examination it will be noted that certain details in every frame are altered to effect apparent motion: for example, the boy's arms and legs in the deck sequence.



Still photographs, two with live action, prepared for animated film commercials advertising National Bohemian Beer. Courtesy of National Screen Service.



Three photographs of non-consecutive stills showing steps in animation of lip movement in an animated film commercial advertising National Bohemian Beer. Courtesy of National Screen Service.



Three photographs of non-consecutive stills showing the animation of two bowling balls making a simultaneous strike for a film commercial advertising National Bohemian Beer. Courtesy of National Screen Service.

tion has purposely been introduced before this discussion of the department so that the reader may logically follow the essential job classifications.

In a station shop or commercial production firm, the graphics department is headed by a supervisor who works closely with the art director. The staff is composed of commercial artists, letterers, a printer, photographer, and stock, file and delivery clerks. While a substantial portion of the titling work involves lettering and illustration, it is apparent that artists in this group, as indicated in previous sections, are likely to be called on to execute projects that require specialized or esoteric treatment. Because of this, it might seem logical to employ a sizeable staff so that the art department can at all times handle whatever is required, regardless of subject matter.

Unfortunately, this premise is somewhat unsound economically because, while specialized work is frequently required, there are insufficient amounts of this type of artwork ordered on a daily basis to warrant the maintaining of a large staff of experts. This means that the staff artists in a graphics group must be jacks of all trades who, individually or working together, must be able to fake an oil painting in the style of Goya or to prepare a caricature, in the modern manner, of Jack Benny or Milton Berle. In addition, a title artist in television production, regardless of his field of specialization, must adapt himself creatively in order to fulfill the hundred and one demands on his skill imposed by dramatic programs for which graphics work of one kind or another is required in all historical periods, conditions, shapes and sizes.

Thus the secret of operating a graphics section is not necessarily employing a group of supernaturally clever, high salaried and temperamental geniuses but rather assembling a crew of well-trained general artists who will collaborate on difficult assignments.

It is therefore not unusual under commercial

conditions to see one involved title or display board executed by three different artists, one of whom does the air-brushed, background drapery, another the hand-lettering; and yet another the essential illustration. Since artists, even with identical training, obviously possess varying creative talents, interests and aptitudes, this "pool" system actually allows each to work in the general field he prefers.

It is easy to promulgate theory. It is not so easy to find and employ general, commercially trained artists and illustrators who are willing or temperamentally able to work peacefully together without paint-slinging and foot-stamping, but the idea of collaboration, like television itself, is here to stay. Furthermore, this teamwork has been achieved.

The Head Title Artist

The supervisor of the graphics department is normally a commercial artist with ordinary and conventional training but with extraordinary and diversified experience and background. Personally, like the scenic designer and art director, he must have an instinct for presentation, a feeling for showmanship and a ready imagination. His background should include advertising agency, newspaper, or magazine staff work, since the graphics function is more than a little concerned with the sales approach. In addition, a thorough grounding in layout, the printing crafts, display methods, processes of reproduction, packaging, as well as a practical knowledge of photography, color, historic styles, the techniques of all media and, in general, all the basic functions of art in advertising and display are indicated. The head title artist need not be an M.F.A., but his schooling should include the fundamentals of drawing and painting in addition to some excursions into the fine arts field.

This general commercial background, per-



Many commercial products have to be repackaged for effective television usage if they are printed in high value, non-contrasting colors. This work is executed by the graphics department, usually by processing retouched photostats or photographs of the original package or jar. In the instance above, the manufacturer has permitted a package simplification which eliminates all the fine printing on the originals.

haps in lesser degree—discounting the catholic and lengthy experience—is similar to that required of the staff artist.

Staff Artists and Craftsmen

It has already been suggested that staff artists¹ in the graphics department should be

versatile, all-around men who, singly or in tandem, can successfully tackle the most esoteric problems in illustration or display and execute these as well as ordinary demands in a workmanlike and expeditious manner. Basically, because of the nature of production activities and the uneven workload, all title artists are expected to be able to execute all types of commonly used announcement or display cards. However, the efficiency of the pool system seems to indicate three general job classifications: letterer, illustrator and cartoonist. This does not mean that these specialized artists must confine their efforts within jurisdictional limits.

¹ In the East two unions represent title and graphics artists: *Sign, Display and Pictorial Artists Union*, Local 230 (aff. with the Brotherhood of Painters, Decorators and Paper Hangers of America) and the *Motion Picture Screen Cartoonists*, Local 841 (aff. with I.A.T.S.E.).

CRESTA BLANCA

The Praise of Folly



9002

19

**The Shamrock**
Summer
6993
Restaurants

8994

THE Southwick REBELLION!

9001

*Sir John Schenley***MOULIN ROUGE**
RETURN TO PARADISE

6990



5000

J. L. & J. W.



8995

8996

8997

8998

A file of clippings showing historic and modern type faces and hand-lettering should be maintained by the art director or graphics head for ready reference.

Since most commercial artists today have a similar educational background, the classifications actually refer to the individual artist's special talents or abilities in certain techniques.

Large departments also require the services of a staff photographer, a printer and various craft assistants whose work is described in the section on processes (see p. 155).

The Art Room and Its Equipment

The graphics department requires more space than that normally assigned to a group of advertising, promotion, or commercial artists because of the size and physical nature

of displays, drawings and mock-ups. While title copy intended for most processes of transmission is 11" by 14" or 20" by 30" at the largest, a substantial amount of material that the producer plans to use "live" in the studio must be executed at full scale or even enlarged to dimensions greatly in excess of life-size. Enlarged commercial products, especially those in three dimensions, frequently exceed 25 cubic feet in bulk. Mock-up billboards and posters, double-truck newspaper pages, maps, weather maps and election return graphs require solid, sizeable work tables at least 4' by 7'. And suitable allowances must be made for individual drawing desks, paper cutters, mounting presses, file cabinets for originals and various types of slides, material storage, air-brush equipment and the various adjuncts essential to general commercial art operations.

The art director should work closely with the graphics supervisor in the formation of a morgue, including scrapbooks devoted to typography ideas, decorative insignia or ornaments and general geographical photographs and illustrations. The supervisor should also work out a style book, containing information on title copy sizes, established consistencies in spelling, policy usage, restrictions (areas of nudity permitted in sketches or cartoons of the human figure, display rules, improper usage of sponsor's product, etc.) and other instructions essential to operations. On commercial shows the graphics department "follows copy" in the matter of printed or lettered titles, since changes in the spelling of some would yield results not far from catastrophic. Examples are: Gasolene, Sun-kist, creme, parfum, etc. and such paronomastic combinations as Dairy Maid (Made), Pie-Krust, Bilt-Rite (Right), Auto-lite, Time to Retire (re-tire), and Kantleek. It is therefore obvious that because of the many trade spellings of copyrighted brand names and slogans the title artist must follow the original. Actors and producers listed for credits

also offer spelling bouts. Here the supervisor must assume copy is correct as furnished by the producer, because he does not have facilities or time to check the various Catherines, Katherines, Kathrynys, not to mention the vagaries and conceits in the spelling of performers' stage names.

The graphics department, small or large, should purchase and budget for as many reference books, especially illustrated dictionaries and encyclopedias, as its morgue or stockroom will hold because research work, a

big factor in illustrating and cartooning, must be done rapidly. Orders for a printed title with a pictorial background of Lincoln's birthplace or of an African elephant cannot be executed by the title artist "out of his own head" unless the department welcomes blasts from viewing "experts." The presence of source material close at hand in the workshop is essential, particularly if the graphics department is required to originate artwork for "identification" by contestants on quiz programs.

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A practical introductory text with complete fonts of the best-known type faces.

Dair, Carl—*Design with Type*, Pellegrini & Cudahy.

An analysis of good typographic design from many angles—relationships of harmony and contrast in size, weight, structure, form, color and texture.

Mayer, Ralph—*The Artist's Handbook*, Viking.

A valuable manual for the TV artist, describing various media and techniques, tools and processes. Helpful methods and formulae are included.

Stanley, T. S.—*The Technique of Advertising Production*, Prentice-Hall.

Material on visualizations, layout, typography, etc. Of value to planners of TV commercials and to graphics arts heads.

COMMERCIALS

THE ARTIST AND THE ADVERTISER

THE inexperienced creative or production artist often fails to grasp the relative importance of the commercial portion of a program, because he cannot accept as serious the advertising agency representative's description of "opening billboards," jingles, refrigerators that "sing" or "talk" (or aspirin tablets that march, dance a polka and then proceed to gang up and cure the girl's headache so she can go to the party, after all), product displays and gimmicks. The graphic artist, since he has likely studied advertising layout, can usually adjust himself to the commercial field, but the set and costume designer, trained along fine arts lines, feels superior at first to planning backgrounds and accessories for cheese or jelly displays, kitchen scenes, breakfast nooks for promoting cereal or pineapple juice, and tobacco auction rooms for plugging Lucky Strikes. This is a mistake.

To the agency, and of course the sponsor, the commercial is of paramount importance. Its artistic requirements should be given a great deal of consideration by the art director and his staff, who too often fail to understand that many hours of discussion, market

[174]

research and sales planning have been devoted to the format and message in an apparently simple commercial. To stage such material—no matter how banal it sounds to the artist—in hastily contrived or poorly dressed sets is like setting a full-page ad in *The Saturday Evening Post* in worn, broken type and coarse-screen newspaper half-tones.

So far as the designer and artist are concerned there is little difference between a live and a film commercial. Both require titles, scenery, costumes, props and physical gimmicks, and this you should keep in mind while reading the following outline of commercial types.

If a poll were taken, most agency television producers and account executives would probably agree that filmed commercials are superior to live commercials on many counts: Timing is controlled, the treatment is slick, special effects and all conceivable animations are possible, accidents are eliminated (unless, of course, the film breaks or the operator "rolls" the wrong reel). Also a great deal of information can be packed into 90 or 180 feet. Film travels through the projector at the rate of 90 feet per minute.

However, all sponsors do not agree. Some feel that the very smoothness of films makes the commercial message too easy to take, and that the viewer turns his attention away from material that is frequently repeated in identical form. Others list the following practical reasons for concentrating on live production:¹

¹ This material is based on *opinions* advanced by advertising or sales executives and by no means should be regarded as results of a formal, exhaustive survey.

1. Rotating or guest stars to participate in commercial.
2. Large number of products to be advertised. Individual films, different each week, would be too expensive.
3. Seasonal items to be promoted, tied in with local weather conditions, temperature, topical events.
4. Live quality superior in showing actual demonstrations, mixing and cooking of food products, etc.
5. Simplicity—film optical effects, lap dis-



The application of still rear-projection work to commercials in small stations is economical and practical. In certain cases, realistic slides may be made of the client's store front or plant and many of the production costs associated with live staging may be avoided. Above, a specially arranged Coca-Cola commercial is picked up by a studio camera. Insert, the actual shot. Courtesy of Trans-Lux TeleProcess.



The Scottish costume of the girl who sings the jingles emphasizes the economy of Bonny Maid products on a Bonafide Mills commercial. Note the appliquéd letters on the traveler curtain.



These enlarged containers of Bristol-Meyers Company products are made of soft pine, whitewood and papier-mâché. The labels were developed photostatically and retouched.



The famous bull's-eye of the Lucky Strike package serves as an opening "billboard" for American Tobacco Company programs. In operation, the bull's-eye is rendered on a circular opening and a small drop raises on cue to disclose Dorothy Collins.





An unusual development of a product in magnascale. This three-dimensional dispenser of Scotch Cellophane Tape was enlarged 35 times for a live commercial. Note the piece of Lucite which simulates the end of the tape.

solves, zooms or animations, no matter how clever, may detract from sales message.

6. Impact—live action, arranged with minor weekly changes, but retaining basic appeal, jingle or slogan has greater opportunity to irritate.

Commercial Types (Live or Film)

1. *Table-top Displays*—Shots of "still life" arrangements of products, mainly for identification purposes. Products on "dealers" shelves." Small, definitive background; usually no scenery unless announcer or actor costumed as salesman appears in shot.

2. *Moving Displays*—Products on turntables, drums, endless belts, etc. See *Graphics*.

3. *Demonstrations*—Shots in realistic kitchens, laboratories, dentists' offices, etc., showing experts working with product; scenery, costumes, props, set dressing and full art service.

4. *Dramatizations*—Domestic or other scenes with characters discussing product and its applications. May be fully realistic, or include musical comedy or ballet effects. Scenery, costumes, props, set dressing and full art service.

5. *Animations (live)*—Self-opening cabinet doors, disclosing product, and other minor physical animations that can be effected with black thread or electromagnets. Close-ups of refrigerator or range temperature dials, operated manually on cue from behind masking. Other gimmicks and self-activated devices. Usually a minimum of background required.

6. *Animations (film)*—The full gamut of possible and impossible movement: packages unwrapping themselves, packages marching or flying or performing any feat that can be arranged by stop motion photography. Many commercials consist wholly of cartoon animations; an example is *Goldilocks and the Three Bears* (the bears doubt her identity until she shampoos with Halo, revealing blonde "glorified" tresses). Some combine realistic action with cartoon animations as in the S.O.S. Magic Scouring Pad commercials which show the Magic Bunny, a cartoon character, against realistic (photographic) kitchen cabinets. Still others concentrate on the animation of products by the stop-motion process: two good examples are the Scotch Cellophane Tape and the Autolite parade of products. There is almost no limit to the scope of film animation.

7. *Window Displays*—The device of using a shop window, dressed with products. Scenery and set dressing required.

8. *Integrations*—The arranging of posters, products, magnascale products, cut-out trademarks and logotypes within a live setting in such a manner that cameras occasionally pick up details during the program portions. This treatment is applied mainly in quiz shows although certain programs featuring large orchestras usually hang a sizeable sign



Between acts of NBC's Armstrong Circle Theater live commercials are staged in shop window settings. Such an arrangement permits weekly changes of displays and products.

over the players, naming the sponsor or product.¹

9. Novelty "Acts"—Commercials built around personalities or "characters" like Sid Stone (the former Texaco pitchman), Ar-

thur Godfrey, Herb Shriner (Arrow Shirts), Elsie, the Borden cow² (as a marionette) and others. Art service normally required.

10. Slides—Many commercials, neither live nor film, are produced by processing photographs, drawings and type matter on transparent or balopticon slides, film strips, flip

¹ The N.A.R.T.B. Television Code, *Presentation of Advertising*, Time Standards, Item 6: "Stationary backdrops or properties in television presentations showing the sponsor's name or product, the name of his product, his trademark or slogan may be used only incidentally. They should not obtrude on program interest or entertainment. 'On Camera' shots of such materials should be fleeting, not too frequent, and mindful of the need of maintaining a proper program balance."

² In 1948 a real cow (Elsie) owned by the Borden Company was used in a live TV commercial. The setting represented a pine-panelled bedroom, with Elsie stalled in a canopied bed (she stood up). Attended by a nurse and a dairyman, she subsequently was hauled to the Hotel Roosevelt for a cocktail party in her honor.

NOTES ON COMMERCIALS

• Profiled, enlarged products are cheaper than three-dimensional units and are frequently as effective. Only the front of the package or tube is "blown-up" and pasted on a plane surface, usually plywood or wall board, cut out in the shape of the original container. If desired, air-brushing over the photostat can provide an illusion of curvature or thickness.

• An agency art director who handles live commercials at small stations which are understaffed or which lack specialists might do well to assemble a "commercial kit" for emergency changes and product display work. Depending on the products advertised, the kit, consisting of perhaps two suitcases, could include:

1. One font ceramic letters for emergency titling—several pieces of 11" by 14" Celotex (air-brushed or painted medium gray) to which letters are attached with self-contained pins.

2. Six pieces assorted background fabrics (3' by 5' or preferably larger) for the arranging of displays. Fabrics could include pieces of rayon and cotton damasks, monks' cloth, or any utility fabrics of neutral tone that drape well. Roll of assorted tinted papers or textured wallpapers.

3. Tools such as scissors, razor blades, tack hammer, small screwdriver, several small brushes for touch-up of titles or products, folding rule, good, sturdy hand-stapler.

4. Supplies, including jars of poster or casein paints in 4 assorted grays, 1 box #4 tacks, 1 box thumbtacks, staples, tubes of glue, rubber cement and paste, ball of twine, roll of draftsman's tape and similar adjuncts to display work.

5. Two cans Johnson's or Par wax (under pressure) for spraying shiny metal parts, glassware, unwanted highlights.

6. Six oz. titanium tetrachloride. A drop or two in cups of tea, coffee, soups

or on certain foods produces a white vapor for "steaming hot" effects.

Such a kit, with the addition of items or supplies specific to individual needs, saves much time and confusion in the staging of medium-sized commercials in small stations, especially in the initial periods of operation.

• In the production of live commercials roughly sketched storyboards are more helpful to the station art director and his assistants than several thousand words or lengthy discussions. Arthur Brown & Brother, 2 West 46th Street, New York City, have developed a tissue blank for such storyboards. Each sheet contains a number of rectangles in the correct aspect ratio (3:4) outlined in gray. Under each "screen" is a space for dialogue, stage business and directions. (See p. 33.)

• Both staff and free-lance set designers are frequently asked by agencies to propose ideas for display or general backgrounds, especially when parts of the commercial are fairly static or integrated with the program setting (as in quiz, panel or news shows). If no art material is furnished by the agency, the designer finds himself faced with problems involving typography, logotypes, style of packaging—in other words, problems outside his field of training. Two solutions:

1. Secure a package or a photograph of the product. Develop sets, signs, type, etc., directly from style of lettering and decoration.

2. If the product is nationally advertised, adapt details of set from style of magazine advertisements.

Both approaches are likely to result in the designing of some rather startling backings, but the suggestions are certain to please the agency and its client's sales manager.



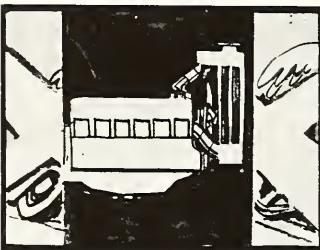
CAR COLLAPSES IN A HEAP AS STEAM & WATER SHOOT UP OUT OF RADIATOR CAP.

SOUND: AS SLIDE WHISTLE REACHES PEAK,
A LOUD POP FOLLOWED BY SWISH OF STEAM
& WATER AND CLATTER OF METAL IS HEARD
AS CAR COLLAPSES.



LARGE "X" WRITES ON ACROSS CAR.

Don't let this happen to your car!



"X" IRIS WIPES TO CROSS-SECTION OF ENGINE BLOCK WITH COOLING SYSTEM & RADIATOR,

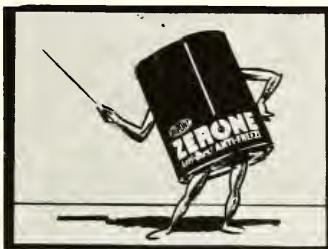
First have the cooling system checked
and cleaned, then ...

A portion of a commercial storyboard prepared by the art staff of Batten, Barton, Durstine and Osborn, Inc. After client approval, the storyboard serves as a guide to production details.



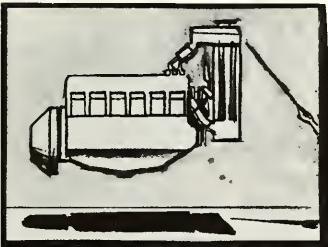
PAN RIGHT TO CU OF CAN OF DU PONT ZERONE.

put in Du Pont ZERONE Anti-Freeze!



CAN SUDDENLY ANIMATES, SPROUTING ARMS & LEGS AND A POINTER IN RIGHT HAND.

Du Pont ZERONE contains a special chemical anti-rust ...



PAN LEFT FOR CU OF ENGINE DIAGRAM & CAN'S POINTER INDICATING VITAL PARTS.

to protect against rust and corrosion.



Producers and designer have staged this live U.S. Tobacco Co. commercial in a realistic shop setting. Note the pointed displays of "Old Briar," "Dill's Best," "Model" and other company products.



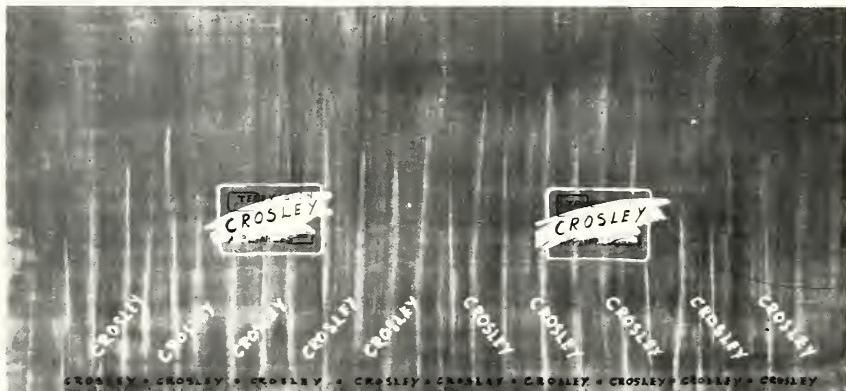
In the Colgate Palmolive Peet program, a product curtain approximately 20' x 44' depicts the star of the show and displays product advertisements. Chorus girls have just completed pasting on a three-part photostatic blow-up of a cartoon.

cards or other similar methods and are projected into the system accompanied by audio material. Full graphics service indicated.

11. Retail Shop (interiors)—The use of a full-scale replica of a portion of a department or specialty store in which sample products are displayed. A different article is featured each time. Dummies, posters, counters and furnishings are usually provided by the ad-

vertiser. Full art service required.

There are many other "types" of commercials, but most either follow the methods listed in the foregoing outline or combine various elements. Again, it should be pointed out that classifications are listed in this book only for the convenience of the reader, who should bear in mind that new ideas and combinations of old ones are constantly being developed for commercial staging.



A velours product curtain designed as a traveler with appliquéd lettering by Frederick Fox for the Crosley Corporation.

NOTES ON COMMERCIALS

- All products, posters, trademarks, etc. should be tested on the system to check gray responses of colors, textures of wood or metal finishes. Normally, few changes are necessary, but objects such as refrigerators or kitchen cabinets with large white surfaces may require spraying in a tint of light green or blue. Superior results are achieved if this treatment can be applied by the sponsor at the factory. For details on repackaging, see ill., p. 171.
- Plain, pleated velours drapes in contrasting values are excellent backgrounds for "quality" products. Another excellent background is photographer's paper, a heavy stock about 8' wide, which is sold by the roll in a variety of colors and values. In practice, the paper is suspended from a batten or other support about 8' off the studio floor and the lower end is run along the floor itself. The paper thus forms a concave backing and articles on display appear to be floating in space. Also an excellent background for mannequins.
- Products executed in magnascale are extremely effective, particularly if the original package, tube or can is small or difficult to display to full advantage. The actual process is similar to that applied in repackaging (see ill., p. 171) except that an armature, box or cylinder is made up by carpenters, working in pine, balsa wood and papier-mâché, and a "blown-up" photostat of the package or wrapper (usually in sections) is pasted over the basic form and retouched as necessary or worked up in full colors if desirable. Occasionally raw materials rather than the packaged products are used, such as an enlarged pineapple in the Libby's Pineapple Juice commercial (about 5' high), the top portion of which hinges back on cue to reveal a girl inside in Hawaiian costume who pops up and sings the jingle. Irregular-shaped objects are usually fabricated of plaster of Paris over a rough form, but if they are to be used live, papier-mâché or a hot-glue rag process is indicated because these treatments can stand the strains and bumps of constant movings.

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COSTUME AND MAKE-UP

THE ARTIST AND THE ACTOR

MANY artists are inclined to regard the fields of costume design, wardrobe procurement, make-up and hair-styling, along with the scenic function, as mere theatrical crafts of minor importance. This is nonsense of course because all the contributive and interpretative crafts in television have relative artistic value; it is difficult to picture a \$100,000-a-week variety program or even a modest soap opera being presented without the attention of expert dress and make-up designers. Since both—especially the costumer, and often the make-up artist—normally are trained in the arts, this section includes short discussions of those aspects of the two fields that are pertinent to art direction.

Costume Design

Like fashion design in the world of the couturière, costume and wardrobe design for the theater, movies, or television is a highly specialized profession. It requires on the part of its practitioners a basic knowledge of the art problems of the media, a thorough back-[184]

ground in period styles and usages,¹ ancient and modern, plus a feeling for line, mass, overall design, for fabrics, materials and color or gray-scale contrasts. In addition, the costume designer should have a practical working acquaintance with the processes of hand and machine sewing, millinery, ornamentation and the reactions of various fabrics to light, different dye treatments, and to appliquéd jewelry or paint techniques. Perhaps most important of all, the designer should understand the mysteries of fitting, altering and corrective styling since actors, like the rest of us, are frequently too heavy or too light in the wrong places.

Because the viewer concentrates on the performer in television, costuming, it might appear, ought to be more important than background scenery. In present-day operations, however, it is often relegated to a somewhat obscure place among sound effects

¹ In production work the way clothes are worn is as important as the design and cut. To be sure, the main responsibility here rests with the performer, but the costume designer who knows customs, even manners and mores, can help with advice and suggestion.

and trucking details. Perhaps the basic reason for this thinking, which of course is not shared by all art directors, is that unlike scenery and props, costumes are usually rented from supply houses rather than developed from original sketches initiated and conceived by a designer.

Because stocks of period costumes were readily available to television production in such centers as New York and Hollywood (and to a lesser but relatively sufficient degree in Chicago, St. Louis, Washington, Boston, etc.), producers followed the line of least resistance and freely battened on the not so glamorless leavings of the theater, motion pictures and amateur light opera companies. A few years ago top quality costumes were available to New York broadcasters for a rental fee of \$7.50 each. As a result of circumstances, the costume function in television production has been oversimplified to such a degree that those highly-trained and experienced designers who joined the ranks of video artists have confined their efforts to what is known in the trade as "finding," in itself no easy task, rather than to creating. It is unlikely that more than 75 original costumes were designed and executed for all the networks in 1951. But it is estimated that there were over 65,000 rentals¹ (not including modern clothes and accessories) in New York alone for the same year.

As stocks decrease from wear and tear (of which there is plenty in television) there will be a very real problem in replacement. Certainly, television cannot long depend on present tributary sources, and both the industry and rental firms will soon have to create and stock a wide variety of costumes especially designed for the medium. As this activity becomes necessary the field of the trained costume designer will expand.

¹This estimate is based on a 39-week period; show costs for the entire year exceeded \$1,000,000 in costume rentals.



Period costumes in the proper gray-scale range must necessarily have simpler lines than theatrical or motion picture dress. In the girl's costume, above, Rose Bogdanoff has provided clothes that are in contrast to the man's suit and to the background. Note the large areas of plain fabric and the lack of involved or busy details. The shot is from an NBC production designed by Otis Riggs.

This is not to imply that present methods, which will persist for some time, require anything less than the services and skills of expert designers who actually must use every resource to synthesize items of rented stock into the artistic whole of current productions.

PERIOD COSTUMES

There is one point about period costuming that artists in general understand instinctively but which is obscure to the layman. Styling is more important than authenticity. Cleopatra, Lady Macbeth, Juliet, Camille, all ladies who fit in fairly definite chronological segments, were dressed in one type of clothes for 1905 theatrical revivals but wear quite an-



In stylized production, particularly in the staging of classic plays and operas, original costumes must sometimes be designed. Above, two quickly rendered costume sketches designed by Elwell for TV revivals of Shakespeare and Molière. Note the areas of contrast which also serve to outline the costume in the plate at the right.

other kind in motion picture or television performances today. And costume styling usually mirrors or forecasts current tastes. These factors should be borne in mind by the art director; he and the costume designer should think twice before acquiring substantial inventories of period costumes. Old clothes, no matter how well preserved, are not suitable for period costuming. For example, in American attics there are doubtless hundreds of women's gowns and accessories of the Civil War years available in wearable condition, but it is unlikely that they could be used to costume a present-day production effectively because of a lack of styling. Actors

would look unreal, dowdy and overdressed. Anyone can see the general effect by studying newspaper pictures of Daughters of the American Revolution groups decked out in their ancestors' finery. The problem of styling in men's clothes is not so critical and occasionally the actual can be adapted to staging purposes.

Like settings, costumes are not only styled to the current mode but are also stylized to help express the intent behind the program and to reflect the conflict in a dramatic piece or humor in a musical revue. Thus the costumes in a conventional production of Molière's *Le Bourgeois Gentilhomme* broad-

cast in 1945¹ were quite different from a truncated, farcical version starring Bobby Clark in 1951.

MODERN WARDROBE

In black-and-white television the assembling of a wardrobe of women's dresses, suits, evening or dinner gowns and accessories projects many problems. Some very beautiful fabrics dyed in medium light and pastel tints lose quality and interest when reduced to values of gray; worse, they look unpressed and actually dirty. The costume designer must experiment with many types of dress goods fabrics under different physical and lighting conditions until he has a practical, basic backlog of experience in choosing the effective and rejecting the unsuitable.

COMEDY CLOTHES

Comedy shows presented in the early years of experimental production dressed their eccentric comedians and gagsters in grotesque and ridiculous garments in order to obtain entrance laughter from studio audiences and, presumably, the remote viewer. Things haven't changed very much in the past five years and, reviewing the popularity of the buffoon in the theater from ancient times to Chaplin, Ed Wynn, Milton Berle and company, it looks as though the position of the clown in television is assured. Thus impossible and incredible articles of clothing—voluminous greatcoats, plaid jackets, baggy trousers, gargantuan shoes, funny hats and vests, loud kerchiefs, stentorian-toned neckwear and horrendous accessories—have to be procured, rented or purchased in increasing amounts. But this is not all. Many of the garments are wired for sound, piped for water or gagged for explosions or special effects.

While the execution of most of these ef-

fects is happily not in the province of the costume designer, he nonetheless must see that physical allowances are made in the clothes for mechanical additions. And the designer must understand that the selection of these banalities is just as important and as serious a matter as procuring heliotrope tights for a Romeo. As a matter of fact, the task of inventing and providing breakaway evening clothes, tuxedo jackets that can be ripped up the back or sweaters that can be unravelled on cue is much more difficult than assembling a group of Italian Renaissance costumes for a cloak-and-dagger dramatic program. Only an experienced designer, versed in the lore of vaudeville and burlesque, should be assigned to shows that use trick costumes.

Procurement

Production costumes and clothes are selected from the following sources:

COSTUME AND WARDROBE RENTAL

Companies which have collected stocks for rental to the theater, motion pictures, the opera, the community and summer theaters, etc. Expert fitters and attendants assure good service. Actors and performers are fitted by appointment. These rental firms are thoroughly experienced in doing business by mail and can usually ship out costumes, with all alterations completed, the day after orders and measurements are received. The art director of a regional station which is at some distance from a costume supplier should, when ordering, provide some sort of grayscale index, especially definitive as regards blue and green responses. Costume houses usually are able to provide swords, shields, canes, period umbrellas and sunshades, various badges and decorations (diplomatic, Iron Crosses, medals, jewelry, etc.), period pistols and rifles, military uniforms and ac-

¹ Discussion and pictures in Royal: *Television Production Problems* (McGraw-Hill).

cessories and occasionally period props such as quill pens, fans, handcuffs, masks, spectacles, lorgnettes, and monocles.

ACTORS' WARDROBES

Except for men's full-dress evening clothes and certain special items such as dressing gowns, aprons, negligees, robes, special sports clothes, actors and performers furnish their own wardrobes subject to approval by the costume designer or art director who must attempt to correlate a variety of suits, dresses and accessories in such a manner as to achieve contrast and interest without unfortunate juxtapositions. While unity is not too difficult to obtain in dramatic shows, the designer has a very real problem in attempting to subdue the finery affected by variety and night-club singers and dancers. Outfits that are brash or glittery and enhanced with sequins and rhinestones reflect disconcerting flashes into the cameras. Most performers, if warned sufficiently in advance, will gladly co-operate, but last-minute suggestions following a run-through dress rehearsal are likely to be rejected.

STATION OR HOUSE STOCK

Even a small, regional station which produces few features (and those involving only the simplest kinds of costumes) is likely to collect enough odds and ends of modern and character wardrobe and accessories after a few months' operations to fill several cabinets. Shirts, collars, aprons, nurses' uniforms, maids' outfits, waiters' jackets and so on are purchased from time to time by the art director and producers or advertising agencies; after performances these items are usually stored by the station. The art director will find that if he makes regular purchases of clothing items as they are required, his inventory, including variegated leftovers, will grow into a sizeable and valuable stock from which articles may be withdrawn and rented to clients.

Large stations at which network programs originate normally stock certain types of character clothes and garments frequently required in live commercials.

COMMERCIAL COSTUMES

Occasionally the costume designer is asked to provide original designs for special commercial usage. For example, the makers of Pansy Soap propose to employ a girl singer whose duties consist of standing close to an enlarged cake of Pansy Soap, singing a four-line jingle and looking as freshly washed as possible. The designer, following the sponsor's specifications, provides sketches and material swatches for a commercial costume consisting of an abbreviated, somewhat frilly playsuit made of a fabric dyed in the tone of a Pansy wrapper, with trimming and piping matching labels or seals. Varied hats—cow-



An enlarged product used as a costume on a dancer who participates in the commercial portion of the Old Gold Amateur Hour. Artwork on the package was developed photostatically.

boy, sailor, farmerette, fisherman's cap, beret, etc., all with an appliquéd "P" are suggested for new, weekly jingles and props or accessories are indicated. The girl therefore is to be the summertime Pansy Girl.

After sketches are approved, the costume designer takes careful measurements, and contracts the job out to a costume house for execution. He selects fabrics, supervises dyeing and cutting and arranges fittings and al-

NOTES ON TELEVISION COSTUMES

- White may be used, but not in large areas. Dress shirts, nurses' uniforms, etc. are dipped in light turquoise dye—if impractical, a solution of black coffee and water, or any light tan dye to create an off-white.
- Curvature of wide-angle lens and also of kinescope (viewing) tube tend to shorten or bow figures; vertical stripes are helpful as a corrective, but generally should be broken at waist.
- Horizontal lines or stripes if regular or contrasting may "catch" on the horizontal scanning and partly disintegrate in the broadcast image.
- Fabrics with large, involved patterns or figures are confusing and busy even against simple background; if a "loud" costume must be used for character purposes in serious programs, usage should be restricted to tight shots after introduction.
- Because most TV lighting is directed downward, the wearing of picture hats and other hats with large brims should be avoided to prevent ugly shadows.
- Fabrics that show wrinkles, such as satin or taffeta, should be used sparingly because pressing cannot be done between takes, as in film operation.
- All tight-fitting women's sweaters in pastel values should be checked on the system, since some may have a gray response very close to skin tone. Result: actress may appear nude from the waist up.
- In TV the costume should be small in scale. Large flounces, floppy hats, ex-aggerated collars, ruffs, bows, although perhaps historically correct, seem to fill the small TV screen and obscure other players. This does not necessarily mean that costumes have to be tight or form-fitting.
- In television the outline of the costume, the "silhouette," is important; details are lost and over-application of accessories tends to confuse.
- Small prints are acceptable if not too contrasting with background of fabric. Piping in lighter or darker values of fabric is good, because it outlines and defines indicated areas.
- Contrasting gloves, scarves, kerchiefs and the like are excellent for relieving monotony, and usually add a certain smartness.
- Black, once taboo, still should not be used in large areas. If the engineer adjusts the picture to produce deep blacks, other parts of the picture are correspondingly darkened and transition to another shot is difficult and jerky.
- The gray responses of different fabrics of the same color and value should be carefully noted. Textures, basic materials and varied types of dyes alter reactions.
- Men's shirt collars of the long, pointed type are bad on TV, as they tend to curl or wilt during scenes of violent action. Short, broad, well starched soft collars are good; also those that button down. The latter, however, must not be skimpy as to neck size or they will bulge.

terations; he also selects shoes, advises on suitable lingerie (in order to avoid bulges that affect the desired crisp look) and designs or adapts buttons, belt buckles or other details. It is apparent that a few stitches for the Pansy Girl will cost approximately \$350; still, she will last all summer and this amount can be amortized over a 13-week period (\$26.90 per week, plus cleaning costs).

Well-known commercial costumes worn on network programs include the famous Texaco "showmen" opening quartet in their service station uniforms; "Weat" and "Tear" on the Bonafide Linoleum Show; the dancing packages of Old Golds and matches on the Old Gold Amateur Hour; Teddy Snow Crop (diminutive Polar bear outfit) and many others. It is obvious, therefore, that because of the special nature of commercial costumes many have to be designed and constructed, although occasionally adaptations can be made by appliquing cut-outs or lettering on standard, rented garments. This is frequently done when the usage is confined only to one performance; for example, sewing a "K" (for Keds) on a football uniform.

RETAIL SHOPS AND MANUFACTURERS

Retail shops and manufacturers frequently lend modern dresses, furs, coats, accessories, dinner and evening gowns on consignment in exchange for "credit lines," announced orally or printed on titling:

Miss Binley's Gowns
from
Bon Marché

When clothes are borrowed under these conditions, the art director and costume designer must make sure that indicated credits are given and that all items are carefully handled and returned promptly. Damaged, soiled or lost articles are usually paid for by the borrower.

OTHER SOURCES

Quite often interesting character clothes that are suitable for costuming can be purchased at secondhand or Salvation Army outlets. Such items as out-of-style gowns and women's coats, odd umbrellas, muffs, hats and handbags may be picked up cheaply and are valuable for dressing certain types of characters in dramatic and comedy shows.

Organizations like The Men's Fashion Guild are invaluable aids as contacts in obtaining men's sportswear, especially advance styles, from manufacturers prior to general distribution. Loans are sometimes made to television stations for general exploitation purposes.

Newly developed types of handbags, costume jewelry, novelty raincoats and similar accessories are widely distributed to large stations by manufacturers who hope to popularize their products by showing actual usage. Before entering into any agreement, the art director should consult with his company's sales department to make sure that in promoting certain items, he is not giving away what the station normally expects to sell—advertising time.

Preparation of the Costume Designer

In essence, the preparation of the costume designer is very similar to that of the set designer, except that the field of study is limited to those subjects relating to period styles, fabrics, modern fashion design and styling. Before attending a professional school, incipient designers should have a general background in drawing and painting, free-hand sketching, composition and color; for television application, general courses in the advertising and commercial fields are valuable. Most important, the candidate should select a professional school in which there are opportunities for the actual making of costumes.



A group of three period television costumes selected for their simplicity and fabric quality. From an NBC production.

—pattern-making, cutting, sewing, draping, adapting (altering or faking a costume from one period to another), dyeing, and so on. Extra-curricular work in the summer or community theaters, even as a wardrobe helper, is extremely useful.

The ability to render a smart, colorful sketch of a costume (artistically draped on an attenuated figure eight or nine heads high) is advantageous to the designer who wants to "sell" or to present his work in the best possible light. However, the costume sketch is not an end in itself and the designer must implement such work with detail drawings, fabric swatches, and full dimensions (from actual measurements) and may, on complex jobs, include full-scale paper patterns.

The Stylist

Television is in a unique position to forecast and establish trends in fashions.

Both the theater and the movies have reflected popular taste in dress, and the fan magazines and Sunday supplements are filled to overflowing with pictures of "best-dressed actresses." But the limitations of one

medium and the time element in the other have actually slowed down public acceptance of many innovations. Not infrequently movies are shelved, awaiting release; and as a result, with such delays in mind, producers have indicated the conventional in styles. So far as the national scene is concerned, the theater's influence is negligible.

Despite the fact that television can delineate a new fad or fashion on millions of living-room kinescopes twenty-four hours after a couturière's brainstorm has been expressed in nylon or nainsook, television to date has not done a great deal with fashion exploitation. This is mainly because the black-and-white system is not ideally suited to the showing of pastel-toned gowns and colorful sportswear. Fashion artists and stylists can, however, look forward to color which is not only kind to all fabrics and textures, but which glamorizes the ordinary.

Even in black-and-white much progress has been made by both network- and agency-employed stylists who, although not draftsmen, nonetheless have had art training, bolstered by practical experience as buyers or merchandising specialists.

The stylist is not so much a designer as a go-between, a shopper, an advisor, a procurer of clothes. In large-scale production she may not concentrate on a single program but instead take over the modern dress responsibilities on all shows likely to require this service. She assists the costume designer or finder in the matter of purchases and in making contacts, and is on hand to advise stars and leading players on technical and fashion problems. The stylist is a practical expert, placed in the somewhat strabismic position of keeping one eye on Paris, Park Avenue, and Dallas and the other on television's pressing procurement and usage difficulties.

AGENCY STYLISTS

A wider field for properly trained persons with backgrounds in fashions and merchan-

dising is offered by shows produced directly by advertising agencies or "package" companies, especially those containing women's features. However, account styling is likely to include not only supervision of wardrobe but overall responsibility for props, set dressings and furnishings in addition to such commercial chores as buying groceries, slicing cheese, arranging displays and so on. At the moment, even though they are considered an expensive luxury, a few stylists are actually employed by agencies on network programs. Competition and the constant need to raise qualitative levels indicate an expansion of the styling activity.

Unions

Costume designers, finders, and assistants in the East are affiliated with a subsidiary unit of the United Scenic Artists Union. Network broadcasting from Hollywood, not initiated until October, 1951, is organizationally uninhibited while contracts await negotiation and signature. Wardrobe attendants (who are not artists but service employees), dressers and "mistresses" are represented by an I. A. T. S. E. union. These attendants perform such essential duties as unpacking and pressing costumes, sewing on buttons and making minor repairs. They also assist actors in making quick changes. Most of the New York stations employ a wardrobe mistress at each studio building and, working closely with the art director and costume designers, she assigns regular or part-time attendants to dressing rooms adjacent to the sound stages.

Jurisdiction over the making—cutting and sewing—of costumes and accessories is claimed by the I. L. C. W. U. (International Ladies Garment Workers Union). The networks do not normally construct many costumes, but may occasionally employ a seamstress or two by the day.



An actor, make-up artist, and production assistant examine a latex mask of the type worn directly over the face. Areas around the eyes, mouth, neck and ears are attached to the actor's skin with adhesive. As the actor talks, frowns or laughs, movement of facial muscles alter the shape of the mask and may be readily picked up by the camera. The mask was designed by Richard E. Smith.

Make-up

In a certain sense, the "art" of make-up is far removed from the normal fields of the graphic artist, although many successful make-up delineators and practitioners have a background of conventional art and design training.

However, this important function is an essential part of the television art department and brief mention should be made here of personnel and processes.

Television make-up is not so different from stage and screen make-up that an artist experienced in the two latter areas cannot readily adjust his techniques, after observation and experiments, to local conditions. In the early



In this plate, Maurice Manson, an actor who is also an authority on make-up and prosthetics, provides a pictorial record of some of the hundreds of character roles he has played involving make-up, wigs and accessories.



Everett Sloane, who has been featured on many television dramatic programs, utilizes make-up as an adjunct to character building. Left, Mr. Sloane as a dapper British officer in *The Great Escape* with Vaughn Taylor (see also page 196). Right, Mr. Sloane, as the tortured artist in Philco's production of *Van Gogh* about to cut off his ear with a razor. The scene ended at the point pictured above, but in following shots the NBC-TV make-up staff devised a latex mask to hide the actor's right ear.

days of production, networks and medium-sized independent stations therefore hired make-up assistants on a part-time basis. They did not maintain this section on a full-time staff basis until 1949, although most employed a chief make-up man to supervise overall work; to attend to the purchasing of supplies; to design period coiffures, wigs, and masks; to arrange for rentals of toupees, beards and accessories; and to operate a modest laboratory for experimentation in "corrective" make-up.

As in scenic painting, make-up in color readily deceives the eye. But in black-and-white television, even under excellent lighting conditions the best make-up, while it improves or alters, can effect only superficial changes, such as covering skin blemishes, moles or unwanted wrinkles. In character make-ups, puckers and wrinkles are difficult to indicate; if they are drawn on and high-

lighted in theater fashion, the results usually show as lines on a flat surface, although certain effects of this nature can be accomplished with subdued, subtle touches. The real problem is that beauty and character are more than skin-deep. Bone structure, fat pads, the placement of tissue and muscles are factors that are important in television, or for that matter in any black-and-white medium, including still photography or motion pictures.

In creating character make-ups then, the make-up artist must resort to contour changes when he can. Noses, ears, jowls are built out with latex, and if feasible, latex or other tampons are inserted in nasal passages, inside cheeks or under lips. Unfortunately, these tampons, which do produce excellent visual effects, act as impediments to articulation and of course are a trial to actors.

In comedy programs and in revues and

NOTES ON MAKE-UP

Normal, "straight" Make-up:

Max Factor's "Panstik" is suggested as a good foundation. Apply several light strokes with the end of the "stick" to various planes of the face and spread the make-up evenly with the fingertips. Neck, back of neck and backs of ears, sometimes neglected, should be covered with a thin coating. A cleansing tissue may be applied to blot off excess "Panstik." When the face is evenly toned it is "powdered-off" with any light (preferably tan tinted, not white or pink) face powder.

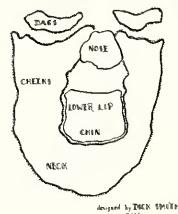
	COMPLEXION	"PANSTIK" BASE	EYES	LIPS	ROUGE
MEN	Light	Olive	Eyebrows darkened with brown make-up pencil	—	—
	Medium	Deep Olive	—	—	—
	Dark	Natural Tan	—	—	—
WOMEN	COMPLEXION	"PANSTIK" BASE	EYES	LIPS	ROUGE
	Light	Medium	Eyebrows, brown pencil Minimum eye- shadow	Medium	Very Little
	Medium	Olive	"	Dk. Red	" "
			Bl. Mascara		
	Dark	Deep Olive	"	" "	" "

Women should apply a basic, ground make-up toned at least one value darker than their skin. Lips should be firmly outlined and slightly exaggerated in fullness.

When performers or actresses appear in evening dresses, bathing suits, or other abbreviated costumes, all exposed parts of the body—arms, chest, back and legs—should be coated with foundation tone. In dramatic or serious programs, men in shorts, jerseys, etc., might appear more glamorous so coated.



PLASTIC FACIAL PARTS FOR VAUGHN TAYLOR.



Richard E. Smith has devised an unusually elaborate make-up for Vaughn Taylor's role in an NBC-TV Philco production. Above right, Mr. Taylor without make-up. Above left, the actor with make-up, additional hair treatment and a latex mask. Note particularly bags under the eyes, the shape of the jaws and the double chin. Left, an outline drawing of the portions of the latex mask designed for this difficult make-up.

variety shows, make-up usually follows the stage pattern, especially when the intent is to produce a grotesque effect.

Regular make-up, applied to beautify or to glamorize, involves the use of different values of standard pancake (usually in the deep tan tones), touch-up of eyes, light eyeshadow and, of course, lipstick on the raspberry side of the palette. Rouge is used sparingly, if at all, since it tends to produce gray blotches which may appear as gaunt shadows if it is not cautiously applied and checked during rehearsals for response. Occasionally, old-fashioned theatrical grease paint is employed for special effects and is very useful for ob-

scuring dark whiskers. Even after he shaves closely, the blue-jowled man requires considerable make-up attention.

In network operations, the make-up chief is assisted by general and specialized artists, hair stylists, who design and plan period and modern coiffures, and hairdressers, who execute this work. A part-time sculptor is employed or retained to design originals and help with castings of noses, ears, hands, fingers¹ and other necessary but grisly anatomical details.

¹ A recent dramatic program featured a "man from Mars" with six fingers on each hand. The extra digits were cast in latex and applied with adhesive. The results were effective, if somewhat horrifying.

Preparation of the Make-up Artist

A general two-year art school course is a valuable but not essential basic training for the make-up head; he should concentrate on free-hand sketching, drawing from the antique (casts of heads, feet, hands, etc.) and the elements of sculpture.¹ A good, prac-

tical course in theatrical or motion-picture make-up should logically follow, implemented by experience in various media, including photography, summer stock and commercial films.

¹ Richard Smith, perhaps the most versatile television make-up artist in the East, prepared for this field by taking formal courses in: drawing and painting, anatomy and color. He subsequently studied dentistry, chemistry, hair styling, sculpture and dermatology.

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A thorough primer of make-up with good illustrations of methods and processes. Most of the material and techniques can be adapted to stage and television work.
- Lester, Katherine, M.—*Historic Costume*, Bennett.
Plates and descriptive matter for the costume designer's library.
- Lester, Katherine M. & Oerke, Bess V.—*Accessories of Dress*, Bennett.
- Wilcox, R. T.—*The Mode in Footwear*, Scribners.
- *The Mode in Hats and Headress*, Scribners.
- *The Mode in Furs*, Scribners.
- These works on costuming and costume details are fairly basic, and the designer will find a wide range of both general and specialized books in this category. As yet, none is devoted to TV staging.

ACCOUNTING AND COSTS

THE ARTIST LOOKS AT BOOKKEEPING

IT IS not at all essential that the art director and his assistants study high finance in order to achieve success in television production, but it is necessary that all artists involved in the complexities of programming understand, superficially at least, the fundamentals of accounting so that they can record time and materials expended on individual jobs in such a manner that this information can be readily translated into dollar amounts by a clerical staff and entered on statements to clients.

Cost Accounting

Whether the art director is directing the functions of a two-man shop at an independent commercial art studio or a sizeable design and execution department in a large broadcasting corporation, the profit aspect must of course be considered. Unless his firm is willing to absorb costs (which is sometimes done under certain conditions) he cannot continue to operate successfully by [198]

purchasing paint, for example, at \$2.06 per gallon and "selling" it to the client at the same price. Thus, as in any other business, profit factors or "mark-ups" are added to basic costs of material and to basic rates paid to workers when goods used for scenery, costumes, titles, etc., and labor spent on designing, painting and executing are billed.

It must not be assumed that the mark-up is clear profit, because a large percentage of this factor must be applied against the operator's basic expenditures. These include physical plant operation, heat, light, freight, maintenance, machines, tools, insurance, Social Security payments, staff vacations and replacements and so on. In any large-scale enterprise, considerable study by cost accountants is necessary before the mark-up rate can be intelligently established.

Billing and Accounting

The billing department or the independent shop bookkeeper is essentially interested

in four matters when information is being collected for billing purposes: time spent on the job; evaluation of stock items (scenery, costumes, props, set dressings) owned by the firm and "rented" to the program; the cost of outside purchases, rentals of furniture, costumes, antiques, etc., and a record of materials withdrawn from stock (paint, cardboard, drapery material, drawing paper, stencil paper, charcoal, etc.).

Time is entered on work tickets by the designer, the chargeman scenic artist, the graphics chief and other supervisors or often by the individual operative himself. A time-keeper collects all records on a single job (including those reported by other sections, such as carpentry, property procurement, not considered here), files them in a work envelope, and posts total man-hours in the proper category on a blank printed on the face of the envelope. Since the billing department knows the established chargeable rates in each category, it can easily compute and enter these amounts against the program job.

The evaluation of stock scenery or props is determined from listings provided by the various section heads; in most cases, the supervisor simply notes "show usage":

U. S. CHEESE

July 4, 1952 Program #617

11 plain wings	4 chairs #F87
5 doors	1 divan #F173
1 mantel & unit	1 Kelly divan #F1
8 assorted jogs	2 tables #F43
3 windows	etc.
etc.	

These listings include all scenery, furnishings, backings, costume accessories and so on used by Program #617 from station stock. The billing clerk, referring to a table of es-

tablished evaluations, thus can compute total evaluations in every classification. When articles are used from stock that are not coded, the section head estimates the evaluation:

U. S. CHEESE	
July 4, 1952	Program #617
Scenery	Set Dressing
4 units 1"x12" used as thicknesses—\$20.00	1 special broken candelabrum —\$2.00
etc.	1 special Aztec statuette —\$6.00
	etc.

For purposes of illustration, here are the totals of the various evaluations of items used in Program #617:

Set	Scenery	Furnishings	Dressings	Drapes	Total
	\$5,000	\$1,750	\$700	\$350	\$7,800

Obviously this total cannot be billed to the client since the scenery is returned to stock and rebuilt or repainted into other producers' settings, and furnishings are likewise retained for subsequent use.

During the early stages of commercial programming there was considerable dissension over methods of charging rental or service fees for station-owned production facilities. If the station proposed a 10% or 20% markup on the overall staging facilities billing to recover costs on stock scenery and furniture used, it appeared superficially to the client that he was paying two mark-ups on, say, titles—a normally expected profit or cost accounting factor plus a 10% or 20% addition for—what? Putting his finger directly on the fallacy in this system he could logically ask, and frequently did, to the accompaniment

of much banging of fists on conference tables, "Why do I have to pay a percentage over the cost of titles (which of course varies from week to week) for using your scenery or furniture?"

This matter was finally resolved by a system developed by Albert W. Reibling, now business manager of the Kudner Agency Television Department, and formerly a departmental business manager for a large network corporation. His system, with minor changes, has been adopted by most leading broadcasters and their affiliates. Mr. Reibling proposed that the basic evaluation of stock scenery, props and costumes be stated categorically on an itemized bill, and that a usage fee be established, expressed as a small percentage of each evaluation total. Thus, if 6% of evaluation were considered an equitable usage charge by the cost accountant, the U. S. Cheese Co., Program #617 would be billed as follows for station-owned material assigned to this show:

ITEM	EVALUATION	CHARGE
Scenery units	\$5,000	\$300
Furnishings	1,750	105
Set Dressings	700	42
Drapes	350	21
Etc.		
	<hr/>	<hr/>
	\$7,800	\$468

The client therefore pays only for stock materials he actually uses and thus regards the amount as a legitimate rental fee.

The cost of outside purchases, such as special props, draperies, set decorations and the rental fees covering costumes, furniture, wigs and other rentals from suppliers are of course passed on to the client plus a nominal markup. Information regarding amounts to be posted against programs is obtained by the billing clerk from requisitions or purchase orders originated by the member of the art

department placing an order. For example, a designer rents several articles of furniture for Program #617:

Req. No. K-107	
Please deliver to:	
NYC-TV Television City	
<hr/>	
1 Spanish sofa, gold	
2 French side chairs	
1 18th C. chest	\$52.00
<hr/>	
-Rental-	
Vendor:	Encore Ateliers
Show:	Cheese—#617 of 7/4/52
Date Pick-up:	7/3/52—10:30 A.M.
Date Ordered:	7/1/52
By:	Alizarin Crimson, Des.
<hr/>	
Approved:	
<hr/>	
(signature)	
Art Director or Business Manager	

This amount (\$52.00 plus established markup) is posted against Program #617 along with other similar fees, petty cash expenditures and costs of outright purchases. The art director must supervise this ordering function very carefully and make certain that no articles are purchased or rented unless a properly completed requisition is originated, and that copies are channeled to various business departments as established by company procedure.

In providing a record of materials withdrawn from stock for any program, the section head or operative simply lists supplies in a blank form provided on each time sheet or work ticket and records totals on the face of the job envelope. The billing clerk, re-

ferring to a table of unit chargeable rates (paint, per gallon; illustration board, per square inch), posts amounts against program. Thus the graphics department might list:

U. S. CHEESE	
July 4, 1952	Program #617
2 oz. Payne's gray	
3 pcs. ill. board 30 x 40	
3 cells, 11 x 14	
etc.	

Art Department Billing

A typical bill for art services and materials would follow the form shown on p. 202.

This billing, which is fictitious, excludes consideration of scenic construction, lumber, studio labor, etc., and is presented here only as an illustration to clarify the thinking of art personnel. The information is based on records accounting for labor and materials expended on a medium-budgeted live 30-minute dramatic program.

Estimating

Most networks employ a staff estimator whose duty it is to attend production meetings, to "size up" the show, consult with section heads and subsequently to submit a cost estimate of the show to the producer. In small stations or in commercial shops, the art director or the production manager provides this estimate. If the producer approves the proposed figure, shop work proceeds; if he does not, corners must be cut and expense pared.

Under certain conditions, an estimate can

be a quotation. A commercial shop manager can say, "I'll design, construct, paint, costume and prop your commercial for \$1175," and later bill in this amount, gambling against adverse circumstances that might cause losses. The networks, regarding scenic work as a collateral service, usually prefer to submit an estimate that considers most contingencies, and to bill actuals; thus variances may run from 3% to 20%. A differential of less than 10% (over or under) indicates good estimating.

If all an estimator had to do was to look at the plans and descriptions of the U. S. Cheese Company's Program #617 and guess the overall cost of art services, estimating would be easy. Based on previous, typical shows, #617 probably would cost \$1400, including agency commission. This would be a good guess, and there are many experienced operators in the industry who can estimate quite closely from a casual scrutiny of details. However, a breakdown is essential for two reasons:

1. The producer needs to know categorically how he is spending money. If the estimate is over budget he must be able to cut intelligently—a costume here, a chair there, possibly fewer platforms—without damaging his show qualitatively.

2. The breakdown of the estimate acts as an internal control sheet, and is circulated to section heads so that each is aware of the labor and material, indicated in hours, goods and dollar amounts, that can be expended. Thus, on Program # 617, the designer knows he cannot exceed \$75 on outside furniture rentals and actually arranges the loan for \$67.50.

This method of estimating means that the estimator¹ (or art director) must be in-

¹ A television production estimator would provide figures on all production costs, including the technical costs (engineering). The art director of course would project only scenic and art costs.

August 1, 1952

NYC-TV
TELEVISION CITY

In account with: Raton, Runton, Ringer & McCushla

Program: U. S. Cheese #617 of: July 4, 1952

ART & DESIGN

1.	Design service, 24 hrs. @ \$7.50	\$180.00	
2.	Costume Design service, 8 hrs. @ \$5.60	44.80	
3.	Graphics: Titling, 18 hrs. @ \$3.70 Photography, 5 hrs. @ \$3.20	82.60	
4.	Scenic Decoration: Painting, 55 hrs. @ \$4.99 Other, 2 hrs. @ \$5.00 (plaster work)	284.45	
5.	Make-up (over 8 hrs.), None		
6.	Hairdressing (over 6 hrs.), None		
7.	Supplies and Materials (see attached invoice) Costume Rentals Furniture and Furnishings Paint Shop Graphics Costume Photo Processing (blueprints, photostats)	\$13.20 67.50 23.50 9.62 .75 1.10 <hr/> 115.67	
8.	NYC-TV Stock		
	ITEM	EVALUATION %	USAGE FEE
	Scenery	\$5,000 6%	\$300
	Furnishings	1,750 6%	105
	Set Dressings	700 6%	42
	Drapes	350 6%	21
			<hr/> 468.00
9.	Total, Art & Design	\$1,175.52	
	Plus Agency Commission*	\$1,382.00	

* 15% of gross.

formed of all production details so that he can check all operating sections and decide with the supervisor on commonsense allowances for labor and materials expenditures. The resultant estimate is usually broken down on a form similar to that used in actual billing (see p. 202).

A further discussion of these business methods as applied to art production cannot properly be included here, but the foregoing should provide the incipient television artist with more than an inkling of the processes involved.

Departmental Budgeting

If the art director works hand-in-glove with a departmental business manager he will find that the latter can readily forecast operating expenses (salaries, wages, supplies, transportation, rentals, etc.,) if future planning, preparations for new programming, additions to staff, and so on are described to him.

But capital expenses must normally be prognosticated by the art director himself. Departmental requests are likely to include articles ranging from electric flatirons (costuming) to fonts of type (graphics), items which require explicit specifications and explanations. In addition, most corporation budget officers insist that requests for capital funds be accompanied by a full description of the item suggested for purchase with comment on increases in efficiency, possible time or materials savings and other specifics. Since the art director or his immediate assistants are the experts, they are usually expected to write up requests for Capital Assets funds. Actually, the process is simple:

NYC-TV

BUDGET DATA

12/10/52

During the 1st quarter of 1953 we propose to purchase an Acme 2 H.P. Paint Compressor and Spray Gun to replace hand-operated equipment currently in use.

Operatives are now required to pump air into spray devices by hand. It is frequently necessary to replenish both paint and air supply because present equipment is too small for the current work-load of 42 weekly programs and commercials.

With the Acme Compressor in operation we anticipate that there will be a saving of at least 10 man-hours per week in the spraying operation, which can be applied to actual painting rather than pumping. There will also be appreciable savings in paint because the recommended equipment uses a thinner mixture.

Est. Savings (1/1/53 to 3/31/53)	Labor
120 man-hours @ \$3.00	\$360

Est. Annual Savings Labor	\$1,560
---------------------------	---------

Amount Requested—	
Compressor and all equipment	\$1,200
Installation and wiring	550
TOTAL	\$1,750

Requests for capital assets funds like the foregoing are not guaranteed to soften the heart of the average budget officer, but they do go a long way toward convincing him of the need for equipment and alterations in terms that he can understand.

**GLOSSARY
AND
INDEX**

GLOSSARY

ADVERTISING AGENCY. A firm of specialists which represents the advertiser (sponsor) in connection with the placement and creation of advertising copy, artwork and allied material for newspaper and magazine advertisements and radio and TV programs. In TV, an agency may produce an entire program, including the commercial portions, for a sponsor, or it may buy the program from a "package" producing company.

BALOPTICON. An optical device in which an image of a lighted piece of opaque copy may be projected into the TV system.

"BLOCKING OUT" PROCESS. In TV, the planning of stage business, production details, and the integrating of these with camera and boom movements, either on paper or during preliminary rehearsals. Once shots are established and noted, the program is said to be blocked out.

BOOM PERAMBULATOR. A rectangular or triangular shaped, castered truck or carriage which supports a vertical mast and an extensible boom with an attached microphone.

BUSINESS. Physical action performed by the actor as prescribed in the script.

CAMERA RIGHT (LEFT). Contrary to stage direction nomenclature, the right or left areas in an individual setting are established from the standpoint of the camera.

C.U. Close-up. Other abbreviations frequently used are L.S. for long-shot, and M.S. for medium-shot.

CREDITS. Listing of actors, singers, dancers, designers, technicians, directors, et al. in titles preceding or directly following the program. Credits are also given suppliers under certain circumstances: e.g., "Drapery by the Acme Zinc Metal Company," "Settings executed by the P. J. Rotondo Company."

CYCLORAMA. A curved scenic background element that partially surrounds a setting; usually abbreviated to "cyc" (sike). **DRAPERY C.**—drapes suspended around certain portions of theater or studio sets for masking or decorative purposes. **SKY C.**—a plain, tinted (and usually graded) backing made of canvas, duck or muslin used in exterior sets to suggest the sky. **SOLID C.**—a sky cyc made of plywood, wallboard or even plaster supported by a

wooden or steel frame; a ruit- or kuppel-horizont. C. ARMS, C. BATTENS—gear, normally sections of curved pipe, from which a drapery or canvas cyc hangs.

DISSOLVE. In television, the act of electronically fading out a broadcast image and fading in a new image almost simultaneously. Comparable to film lap-dissolve.

DOLLY CAMERA. A television camera equipped with rubber-tired casters that may be moved along the floor of the studio while activated. When operating at right angles to the action, the camera recedes or advances ("dollies back" or "dollies in"). Camera "trucks" when it moves in areas parallel to the action. In addition to the cameraman, a "dolly pusher" is required.

DOWN . . . UP. Borrowed from stage direction nomenclature, "down" refers to areas toward the cameras or center of the studio, and "up" to areas farther in the set or away from the cameras.

EXTRAS. Supernumeraries; actors or performers integrated into the action for atmospheric effects.

FADE-OUT. The gradual elimination of picture information on the "screen" by electronic means to plain "white screen" or "black screen." To effect a film type lap-dissolve, the technical director or "switcher" slowly fades-out one scene and simultaneously fades-in another.

FLOOR, PAINTED. In television most long-shots include portions of the studio floor which is frequently given a characteristic treatment by the superficial application of paint. Treatments include the simulation of tiles, mosaics, bricks, cobblestones, boards, hard earth, or abstract designs.

FLOOR PLAN. The basic ground plan of a setting or studio drawn to scale, showing the relative locations of settings within

a studio or sound stage and including placement of scenic units, doors, windows, fireplaces, furniture, titling devices, sound effects and sometimes camera movements.

FREE HAND SKETCHING. Drawing performed without the aid of mechanical adjuncts such as T-squares, compasses, triangles, etc.

GIRL FRIDAY. Directors and producers seem not to have secretaries. However, they do employ young woman assistants, whose duties may range from timing rehearsals to liaison work with casting agencies, actors, designers, technicians and others.

IMAGE ORTHICON TUBE. An improved (R.C.A.) cathode ray tube; the camera's electronic "eye" which, basically, converts light into electrical impulses.

KINESCOPE FILM (OR RECORDING). Motion pictures of a program photographed directly from images on the face of a kinescope tube; abbreviated in the trade to "kine" (kinnie). Kines are made for records or auditions, but commercially they are used for transcription purposes, and are expressed to non-interconnected stations for local broadcast. Normally kines are locally re-transmitted a week after the actual origination.

KINESCOPE TUBE. The "picture" tube in the TV receiving set.

MAT SHOT. A camera shot taken through an opening in a small opaque piece of copy, the information on which corresponds in some manner to the actual full-scale background. Comparable to a "process shot" used in films.

MICROPHONE BOOM. A mast, extensible to approximately 17', mounted on the superstructure of a perambulator or dolly. The microphone depends from the extreme end of the mast.

MIDDLE COMMERCIAL. A commercial portion of a half-hour program usually inserted

into the broadcast at its halfway point. The "opening commercial" is, of course, at the beginning of the show and the "closing commercial" at the end.

MUSICAL REVUE. A program consisting of short song, dance and ballet numbers usually with interpolated topical, farcical sketches. The same comedian is normally featured throughout.

OFF-STAGE PORTABLE. A quickly assembled dressing room used for quick change purposes in the studio. Portable dressing rooms are usually made of small scenic units or sometimes simply of folding screens.

PACKAGE. A TV program prepared and produced (scripts, actors, music; frequently design service with scenery, artwork, props, costumes, etc.) by an independent production firm. The program is "sold as a package"; i.e., as a unit, to network or advertising agency.

PAN SHOT. A shot in which the camera is moved horizontally or vertically in order to follow and record action; e.g., in taking a certain sequence, the camera "pans" with a character from doorway to fireplace, then possibly to a chair in picking up definitive stage business.

PARALLELS. Folding level platforms of which the top is parallel to the studio floor; inclined platforms are known as ramps or runs.

PRACTICABLE. Usually shortened to "practical," applied to those props or units such as doors, fireplaces, windows, etc., that are actually used or activated by actors. Example: a practical window in a setting may be opened by an actor if business so requires.

PRINCIPALS. Stars, leading or featured actors or performers.

PROPERTIES. Articles and objects other than scenery, titles, or costumes used as physical adjuncts to the production of a program, such as furniture, furnishings,

objets d'art. Hand-props are those properties used by actors or performers in the course of stage business and include such items as revolvers, books, pens, daggers, letters, telegrams, and newspapers.

SCRIPT. Typewritten program material, usually mimeographed, containing dialogue, stage directions, business, descriptions of settings, titles, sound effects, etc.

SHADOWGRAPH PROCESS. The device of showing characters and decorations in silhouette by allowing light from a single source to cast realistic or stylized shadows (arranged by varying the position of the lighting instrument) on a translucent screen, usually made of cellulose acetate or equal.

SHOT. Any individual view or scene recorded by a motion picture or TV camera.

STORYBOARD. A series of rough, thumbnail sketches, usually rendered within a 3:4 ratio, drawn to visualize consecutive or related scenes in a motion picture or TV program, taking into consideration the use of various lenses, camera positions and stage business.

SUPERIMPOSITION. Two images simultaneously picked up by two different cameras and electronically mixed on the face of a kinescope tube in such a manner that both images are visible.

TIGHT. A camera shot that is restricted in area and that includes only essential information. Also, artwork which is ultra-realistically or finely rendered.

TITLE BACKGROUNDS. Illustrative material, either drawings or photographs, usually indicative of some characteristic scene or idea over which lettering is hand-drawn or imprinted.

TITLES. Specifically, typographical matter integrated with program material to provide necessary or supplementary information, including the name of pro-

gram, geographical locale, period, names of characters, credits to actors, producers, and sponsors. Generally, typographical or illustrative matter such as small backgrounds, photographs, cartoons, and flat displays used in both the program and commercial portions of a show.

TRABEATED. Basically, any construction involving the post-and-lintel principle. Scenic elements of the rigid type are frequently so assembled for balconies, arches, bridges, etc.

TRANSITOR. Studio trade term. A mechanical device usually displaying some type of geometric figure used to point up a transition from one sequence to another: e.g., from reality to a dream scene.

TWO-STEP. A small stock basic step unit two risers high.

"WILD" WALL. A portion of a wall in a setting so mounted on castered "jacks" or a small platform that it can be moved quickly away from a setting, thus allowing a camera to shoot through from an otherwise inaccessible point. Occasionally the wild wall is used for masking purposes.

ZOOM. The optical adjustment, at various speeds (but usually quite fast) from a focus on a certain field or scene to a portion or detail of the field. As magnification of an object or object occurs in the center of the picture, framing material is of course eliminated. The effect is achieved by adding a Zoomar lens attachment to the camera and by manually or electrically adjusting lenses in this device.

INDEX

- ABC-TV, 12, 13, 71, 72, 128, 160
Abe Lincoln in Illinois, 59
Abstract scenery, 69, 77, 78
Accounting and Costs: billing, estimating, mark-ups, rentals, usage fees, 198-203
Achromatic TV (see Black-and-white TV)
Advertisers (see Sponsor)
Air-brush work, 50, 108, 119, 133, 139, 141, 148, 155, 167
Aldrich Family program, 81
American Tobacco Co., 176
Andrews, Herbert, 67
Animations (live and film), 167-9, 177
Appia, Adolphe, 67
Armstrong Circle Theater, 178
Art direction, 20, 31-2, 35-6, 41-65; basic requirements, and chart, 40-3, 58; training, 48-51
Artists in Television, 19-26, 27; head "title" artist and staff, 170-3; supplies for art room, 172-3
Atkinson, Frank H., 140
Autolite, 177

Balopticon, 145, 147, 152, 155, 156, 159, 160, 161
Bandit, The, 105
Barber of Seville, The, 67
Barnes, Paul, 78, 113
Batten, Barton, Durstine & Osborne, Inc., 13, 180
Battison, John H., 183
Bay, Howard, 110
BBC (London), 131, 155

Behrman, S. N., 145
Belasco, David, 67
Bel Geddes, Norman, 54
Beller, Sidney, 45
Benois, Alexander N., 67
Berger, Larry, 13
Berry, Hal, 13, 168
Bettinger, Hoyland, 39
Bettis, Valerić, 165
Bibbienas (family), 66
Biggs, John, 173
Black-and-White TV, 87, 107, 130, 134-5, 138, 187, 191, 194
Bogdanoff, Rose, 185
Bonafide Mills, 176
Boners, 41
Boston, 23, 185
Bourgeois Gentilhomme, Le, 186
Bragdon, Claude, 67
Bristol-Myers Co., 176
Brown, Arthur, & Bro., 179
Brunton, Robert F., 12
Burris-Meyer, Harold, 127
"Business" (Stage), 90, 98

Cabinet of Dr. Caligari, The, 68
Cafe Ami, 87
Camera (TV): handling, 31-2; lenses, 92-5, 116; planning, 98; scales + computations, 93-8 (see also Special effects)
Camouflage (see Fakery; and, Scenic painting)
Carmencita and the Soldier, 32
Carpenter's elevation, 82-3

- Carrick, Edward, 64
 Cartoons, 20, 148
 Casein and "plastic" paints, 132
 CBS-TV, 12, 22, 43, 70, 71, 74, 159
 Cecil, William, 70
 Center staging, 111-12
 Central staging, 111-12
 Cheney, Sheldon, 91
 Chicago, 63, 185
 Choreographer, 27
 Chotzinoff, Samuel, 51
 Clark, Bobby, 187
 Clearances for broadcast permission, 60-1, 149
 Cleveland, 23
 Close-ups, 111-12
 Clothing loan, free, 190
 CMQ-TV (Havana), 24
 Coca-Cola, 175
 Coe, Fred, 50, 65
 Cole, Edward C., 127
 Colgate-Palmolive-Peet program, 182
 Color-aid, 45, 46
 Color Response Chart, 43, 45, (183)
 Color TV, 13, 23, 107, 130, 134-5, 191
 Comedy clothes, 187
 Commercial kit, contents of, 179
 Commercials, 174, 175, 176, 177, 178, 180, 182; Notes: 179, 183
 Constructivism, 73, 80, 113
 Control room, 37
 Copyright restrictions, 61, 149
 Corbusier, 49
 Cornberg, Sol, 127
 Corson, Richard, 197
 Costs of: central staging, 112; commercials, 179; correcting, 42; labor, 107-8; miniatures, 117-18; photo drops, 109; printing, 161; skeletal settings, 112-13; "still" slides, 110 (see also Accounting and Costs; Low-budget programs; and Small TV stations)
 Costume and Make-up, 184-97; 185, 191
 Costume design, 19-20, 45, 184-92; procurement, 187-90
 Costuming, 36, 50, 184-92; Notes on TV Costumes, 189
 Craig, Gordon, 67
 Crayon, H. M., 84
 Credits, 36-7, 153-4, 190
 Crime Syndicated (CBS-TV), 71
 Crosley Corporation, 183
 Cullen, Kenneth A., 13
 Cyrano de Bergerac, 50
 Dair, Carl, 173
 Dali, Salvador, 67
 Decorative painting, 135
 Derain, André, 67
 Designing for TV: 29, 37; camera usage, 98; difficulties, 95; D. development, 78; for films, 68; designer's function, 83-8, 90-1; mechanics of design, 92-128; processes, 78-83; scenic D., 68-78; of TV stage sets, 66-91
 Detroit, 145, 162, 163
 Diorama makers, 20
 Directors, 27
 Documentary, 33
 Dolly camera, 31, 32
 Down in the Valley, 29, 75
 Draftsmen, 20
 Draperies, 107-13, 183
 Duffy, Ben C., 183
 Du Mont Laboratories, Inc., 92
 Dunlap, Orrin E., Jr., 26
 Dye painting, 134-5, 156
 Eddy, Lt. William C., 19, 26
 Elsie (Borden cow), 178
 Elwell, 186
 Engineer, 47, 95, 127 (see also Technical director)
 Enlargements, photo, 108-10, 114, 119
 Equipment of TV studio, 92-8
 "Establishing" shots, 38
 Estimating of costs, 28, 31, 38, 201-3 (see also Accounting and Costs; and, Costs)
 Evans, Ralph M., 65
 Expressionism, 71-2
 Fakery, 164-7, 170 (see also Scenic painting)
 False perspective, 70, 72, 76, 90, 111
 Film sequences in TV, 126
 Flat-floor sound stage (see Sound stage)
 Floor plan, scaled, 34
 Fox, Frederick, 80, 89, 106, 113
 Future of TV, 21-3
 Gebauer, E. L., 127
 General Electric, 24, 92, 153
 General Foods, 158

- General Precision Laboratory, Inc., 92
 Gibbons, Cedric, 68
 Gilder, Rosamond, 65
 Girl Friday, 36, 37
 Glazing, 136
 "Gobo," 38, 115
 Godfrey, Arthur, 178
 Gold, Melvin L., 13
 Golem, Der, 68
Gothenburg (Sweden), 24
 Gothic Color Co., TV Dept., 91
 Graf, Herbert, 22, 67
 Graining, 139
Grand Hotel, 24
 Grant, Norman, 13
 Graphic Arts, the, 143-73, 171; TV graphics dep't, 168-70
 Gray scale in TV: 43-8; analysis shot, 47; balance chart, 44; in costuming, 187, 189; and filter, 48; measurement of tonal values, 84; "signature" title, 147; in slides, 157
Great Escapes, The, 33, 194
 Green, Jackson, 13

 Haas, K. B., 65
 Halo (shampoo), 177
 Halpern, David Hale, 13
Hansel and Gretel (NBC opera), 84
 Havana (Cuba), 24
 Helvenston, Harold, 91
 Herdeg, Walter, 183
 Hollywood, 20, 23, 62, 63, 68, 185
 Hot-press, 154, 159, 161, 162, 163, 166 (see also Printing, Typography)
 "How television works" (demonstration), 29-39
 Hubbel, Richard W., 26
 Hutchins Agency, 13
 Hutchinson, Thomas H., 39

I Pagliacci, 45
 I.A.T.S.E., 13, 62-3, 171, 192
 I.L.G.W.U., 192
 Illusion, creating of (see Set design)
 Illusion, mechanics of, 98-113
 Illustrators, 19, 20 (see also Graphic Arts)
 Impressionism (pointillage), 80, 138-9
 Interior settings, 28, 38

Jim & Judy in Tele-land, 169
 Jones, Iingo, 66
 Jones, Robert Edmond, 54

 Kalmus, Allan, 13
 Kaskoun, Joseph, 141
 Kelly, N. Ray, 24, 65
 Kent, Carl, 51, 123
 Kinescope recordings, 126-7
 Kraft Television Theater, 23, 67
 Kudner Agency (TV Dept.), 200

 Labor unions, 13, 23, 52, 59, 61-4, 87, 108, 114, 133, 171, 192
 Last War, The, 77
 Lenses, 92-5, 116
 Lester, Katherine M., 197
 Lettering, 19, 20, 144-5, 147, 152, 153, 155, 159, 167, 171
 Leve, Sam, 110
 Levin, Michael, 13
 Liebman, Max, 106
Life of Van Gogh, The, 35, 165, 194
 Lighting, 45, 130
 Live TV production, 21, 24, 109, 114, 126-7, 152-4, 174-9
 Lloyd, John Robert, 81
 "Local time" in TV, 21 (see also Small TV stations; and, Low-budget programs)
 Logotypes, 146, 148, 149, 154, 158
 London (England), 131
 Low-budget programs, 21, 107-23, 134, 175 (see also Small TV stations)
Lucky Strike Hit Parade, 78, 113, 164
 Lux Video Theater (CBS-TV), 54, 55, 87

 MacGowan, Kenneth, 68
 MacKichan, Robert, 84, 85, 88
 McNaughton, James H., 13, 71, 72
Madame Butterfly, 51
 Magnascale, 177, 183
 Make-up, 20, 45, 192-7; TV Make-up Chart, 195
Man Against Crime, 74
 Manet, Edouard, 138
 Manson, Maurice, 193
 Mapes, Pierson, 13
 Maps and charts, 148-9
 Maquettes, 29 (see also "Roughs")

- Masking, 119-20, 122, 123, 149, 155 (see also Mat shot)
- Master-control projecting (see Special effects)
- Masterpiece Theater (NBC), 41
- Mat shot, 36, 38, 114-16, 119
- Maugham, Somerset, Theater program, 110
- May, Henry, 43
- Mechanics of Designing, 92-128
- Men's Fashion Guild, 190
- Menzies, William Cameron, 68
- Methods in TV, 27-9
- Meyer, Ralph, 173
- Microphone usage, 95, 98
- Miniature makers, 20, 118
- Minimum staging, 110, 111
- Mirror shots, 116-20
- Mitchell, Edward, 74
- Monet, Claude, 138
- Montage (TV), 151, 154, 158, 159, 168
- Motion Picture Screen Cartoonists, Local 841 (I.A.T.S.E.), 171
- Movie influence on TV, 68
- N.A.R.T.B. Television Code, 178
- National Bohemian Beer, 169
- National Card, Mat & Board Co., 13
- National Screen Service, 13, 145, 167, 169
- Naturalism, 71
- NBC-TV, 12, 13, 32, 33, 75, 80, 83, 130, 148, 149, 157, 178, 185, 191, 194
- Neo-Perspectivism, 73
- New Orleans, 23
- New York City, 21, 23, 63, 67, 185
- Night Life, 80
- Nürnberg, W., 65
- Oenslager, Donald, 91
- Oerke, Bess V., 197
- Old Gold Amateur Hour, 188, 190
- Olden, Georg, 12, 159
- One-Man's Family (NBC-TV), 123
- O'Neill, Eugene, 24
- Organization and personnel, 51-6
- Othello, 41
- Our Town, 110
- Owen & Chappell Agency, 13
- Paddock, Douglas Sterling, 13, 121
- Painter's elevation, 83-9, 106, 128
- Parnassus on Wheels, 126
- Paul Whiteman programs (ABC-TV), 71, 72
- Peroff, Paul N., 13, 169
- Personnel and organization, 51-6
- Perspective in settings, 39, 81
- Philadelphia, 19
- Philco programs (NBC-TV), 33, 35, 69, 75, 90, 110, 116, 126, 146, 147, 148, 165, 194
- Photo-enlargements, 108-10, 114, 119
- Photography, still, 20, 156-61, 172
- Photostats, 146, 156, 158, 165, 166, 167, 176, 182
- Picasso, Pablo, 67
- Pictorial scenic work, 134-5
- Pigments, scenic, 130-33
- Pirate, The, 145
- Planning a Program, 27-39
- Poelzig, Hans, 67
- Pogany, Willy, 67
- Poole, Lynn, 26
- Printing, 161-4 (see also Hot press; Typography)
- Processes and media, 155-6
- Production director, 27-39, 60, 70, 149, 201, 203
- Production limits in TV, 92
- Production manager, 20, 27, 31, 35
- Profiled set-piece, 85, 106; P. wing, 104
- Program planning, 27-39
- Program preparation (example), 29-39
- Props, 85-90, 110
- Puddling, 137-9, 138
- Pull-aways, 149
- Radio City, 23
- Radio Corporation of America, 92 (mfrs. TV equipment)
- Radiotjänst (Sweden), 24
- Rankin, Arthur, Jr., 12, 160
- Realistic settings, 69, 70, 71, 74, 75, 77, 80, 88, 110-11, 175
- Rear-projection, 110, 114, 118-25; chart, 125; limitations, 123; "stills," 175
- Reibling, Albert W., 200
- Reinhardt, Max, 67
- Representational scenery, 69, 78
- Research methods, 49; facilities, 55-9
- Restrictions on broadcasting material, 60-1
- Rhapsody in Blue, 71

- Riggs, Otis, 28, 29, 32, 35, 50, 75, 90, 110, 126, 141, 185
Roerich, Nicholas, 67
Rose, John A., 12, 148, 149
Rotondo, P. J., Construction Co., 12
"Roughs" (sketches), 27-30, 31 (see also Storyboards)
Royal, John F., 24, 65, 187
Rychtarik, Richard, 22

St. Helena, 29
Salvation Army, 190
Scenery (drapery), 107-13
Scenic designing for TV, 19, 27, 68-83, 98-9
Scenic painting (artists), 20, 128, 129-42 (see also Artists in TV)
"Scenoscopes" (see Special-effects)
Scheduling, 43
Schneider, John, 13
Scotch Tape program, 177
Scott, Miss Jan, 83
Script contents, 70, 78
Sculptors (see Make-up artists)
Scumbling, 138
Set design, 20, 48-51, 58, 66-91
Set dressing, 50, 88-90, 105
Sherwood, Robert, 59
Shriner, Herb, 178
Sign, Display & Pictorial Artists Union, Local 230 (AFL), 171
Sign writers, 156
Silhouette effects, 118
Simonson, Lee, 65, 66, 78, 91
Sinatra, Frank, 70
Skeletal type scenery, 77, 80, 112-13
Skutch, Ira, 13
Skylark (CBS-TV), 43
Slides (transparencies), 116-23, 152, 155-6, 157
Sloane, Everett, 194
Small TV stations, 21-2, 59-60 (see also Low-budget programs)
Smith, Richard E., 12, 196
Smith, William Craig, 29, 54, 55, 87
Sobel, Bernard, 26
Sobol, Edward, 65
Somerset Maugham Theater program, 110
S.O.S. Magic Scouring Pad, 177
Sound stage (TV), 22, 24, 78, 106; "live" sound, 29
Souvaine, Henry, 22
Spattering, 137-8
Special effects, 98, 113-25, 151-4
Sponsor, 41, 148, 172, 199-200
Spottiswoode, Raymond, 65
Stage design and TV, 67-8
Staging Services Handbook (NBC), 126
Stanley, T. S., 173
Stencilling, 139
Still photography, 156-61, 169, 175
Stippling, 136-7
Stock units (scenic), 82, 83, 100, 101, 102, 103, 105, 130
Stone, Sid, 178
Storyboards, 27-30, 33, 112, 179, 180 (see also Visualizers)
Street Scene, 75
Studio "transitor," 150
Stylist (fashion), 20, 36, 191-2
Stylization in scenery, 67, 69, 71, 73-4, 78, 80, 186
Swados, Kim, 71
Symbolism, 73-4

Taylor, Vaughn, 194, 196
Technical director, 28, 31, 36, 37, 47, 95 (see also Engineer)
Technical equipment for TV, 92-8
Ted Bates, Inc., 13
Teddy Snow Crop, 190
Television cities, 23-6
Television Screen Productions, Inc., 13, 169
"Television Square" (WOR), 23
Telopticon, 152 (see Balopticon)
Texaco Star Theater, 85, 88, 178, 190
Texture-producing techniques, 135-42, 135, 141
Theater flats, 105-107
Theatre Guild, 129
Theater-studios and TV, 25, 26, 75, 77
Time element in TV, 27, 99
Timekeeping, 50 (see also Accounting and Costs)
Titling: 20, 37, 143-54; illus.: 143-9, 152-4, 163, 167; Crawl T., 153-4; Decorative, 145, 148; T. devices, 151-2, 153; Identification, 146-7; Illustrative, 147-8, 154; Lettered, 144-5; Maps & charts, 148-9; Mechanicals, gimmicks & props, 149-51

- Trans-Lux Projection Co., 13; TeleProcess, 175
Traviata, La, 22
Turnbull, Robert B., 127
TV, future of, 21-3
TV-in-the-round (see Central staging)
TV Make-up Chart, 195
Twelfth Night, 59
Typography, 20, 143, 145-6, 172
- Ullman, Furth, 75
Unions, labor (see Labor unions)
United Scenic Artists (AFL), 13, 63, 192
U.S. Tobacco Co., 182
Urban, Joseph, 54, 138
Utility scenery, 69, 78
- Van Gogh, 35, 165, 194
Visualizers, 20, 27-30, 33 (see also Storyboards)
- Wade, Robert, J., 65
Wankel, F., 65
- Wardrobe attendants, 191-2 (see also Costuming)
Washington (D.C.), 23, 185
Wayne, Harry, 163
WBZ-TV (Boston), 23
Weather for Today, The, 54
Weiss, Margaret, 26
Welded (O'Neill), 24
Wells, Arthur, 33
Whiteman, Paul, programs (ABC-TV), 71, 72
Wilcox, R. T., 197
"Wild walls," 28, 35, 79
Wilson, W. H., 65
Wright, Frank Lloyd, 49
W2XBS (Philadelphia), 19
WWJ-TV (Detroit), 145, 162, 163
- Young & Rubicam, 149
Your Show of Shows (NBC-TV), 80, 89, 106, 113
- Zinkelsen, Doris, 91

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